Croonian Lectures
ON
SOME POINTS IN THE PATHOLOGY OF RHEUMATISM, GOUT, AND DIABETES.

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LECTURE II.

(*Concluded from page 677.*)

Two years ago I published a paper on the formation of uric acid, in which I endeavoured to show that the formation of this substance in the human subject is due, in the first place, to defective assimilation or metabolism, and, secondly, that it is a condensation product much in the same way that cyanuric acid is a condensation product of cyanic acid or that cyanuric acid and biuret are condensation products of urea. Starting with the result obtained by Strecker,[1] that if uric acid is heated in a sealed tube to 160°–170° C. with a cold saturated solution of hydriodic acid, it is decomposed with the formation of ammonium iodide, carbonic acid, and glycocine:

$$\underset{\text{uric acid}}{C_5H_4N_4O_3} + 5H_2O = 3NH_3 + 3CO_2 + \underset{\text{glycocine}}{CH_2(NH_2)COOH},$$

I endeavoured by treating glycocine in sealed tubes and otherwise with cyanuric acid and potassium cyanate to reverse the process and perform the synthesis of uric acid, but unsuccessfully. Horbaczewski, however, stated in a paper published in the *Berichte* for Nov., 1882, page 2678, that by heating glycocine and urea together he had accomplished it. On heating glycocine with ten times its weight of urea in an open vessel to 200°–230° C. he obtained a cloudy and thick fluid. This, on cooling, was dissolved in weak potash solution and supersaturated with ammonium chloride and precipitated with an ammoniacal solution of silver and magnesia. This precipitate containing the uric acid was washed with water containing ammonia and decomposed with potassium sulphide. The filtrate freed from the precipitate was supersaturated with hydrochloric acid and evaporated down. On cooling the impure uric acid separated, which was again dissolved in a weak solution of potash, and submitted twice to the same process as above. Lastly, the product was washed with alcohol and dried. It was next treated with bisulphide of carbon to dissolve the sulphur, and then treated with ether. I tried the experiment, carefully following the directions, but failed to obtain a satisfactory result. Testing the substance at various stages, I got with nitric acid and ammonia a colour somewhat approaching the murexide colour, but nothing more. I failed then probably from using too high a temperature. The experiment for a long time received no confirmation, but in May, 1885, in the *Monats. f. Chemie*, S. 356-362, Horbaczewski gives the following additional particulars:—

"Uric acid is obtained very readily by carefully heating a mixture of glycocoll and urea in a test-tube over the flame of a small Bunsen's burner, holding the test-tube in an inclined position and moving it backwards and forwards over the flame, and taking care to keep up a continuous and free evolution of ammonia from the mass, being careful also that the temperature is not raised too high. The mass, at first clear and colourless, gradually becomes yellowish and opaque. The mass is then heated very carefully until (during the heating) it becomes quite hard, without being charred, or at least until a copious deposit is formed. The experiment is now completed. It is desirable to use only a small quantity (0·1 grm. to 0·2 grm.) of glycocoll at one time. In this way the whole experiment occupies only a few seconds, and the residue after cooling remains of a pale yellowish colour; while by using a large quantity of glycocoll the residue appears of a dark brown colour. As regards the quantity of urea which must be used in the process, it is necessary to use a large excess. When, therefore, the glycocoll and urea are mixed together in proportion of one molecule of each, no uric acid is obtained, nor is any obtained when one molecule of glycocoll is taken with two molecules of urea. It is only when three molecules of urea are taken with one of glycocoll that uric acid is produced. It is very difficult, however, to isolate the uric acid in this case, and to purify it, on account of the very dark brown colour of the residue. The larger the quantity of urea taken, the more easily is the experiment made, and the residue is so much freer from colour. It is therefore advisable to mix one part of glycocoll with from seven to fifteen of urea, and to heat them together in the manner above described. If the experiment is successful, a very small portion of the residue gives the murexide reaction; it is not so marked as with pure uric acid, but it is quite distinct. If the experiment has not been perfectly carried out, no murexide reaction will be obtained from the residue alone. The amount of uric acid obtained by this method, even when successfully performed, is rather small. In several experiments from one gramme of glycocoll and the proportionate quantity of urea, only from 50 to 150 milligrammes of impure uric acid were obtained. The reason of this unsatisfactory result appears to be that the reaction only takes place at a high temperature, at which also the uric acid is in some measure decomposed."

After reading this paper I again tried the experiment, and succeeded in producing the substance. [The full details of the process will be found in THE LANCET for Feb. 6th, 1886, page 244. Several specimens obtained by this method were exhibited at the lecture.]

The following equation represents the changes:

$$3\underset{\text{urea}}{CO\begin{cases}NH_2\\NH_2\end{cases}} + CH_2\underset{\text{glycocine}}{\begin{cases}NH_2\\COOH\end{cases}} = 3NH_3 + 2H_2O + \underset{\text{uric acid}}{C_5H_4N_4O_3}$$

But it is important to know what are the intermediate stages, if we are to understand the mode of formation of this substance in the living body. Now hydantoic acid has been formed synthetically, and here we have the first step towards the synthesis of uric acid. By heating urea and glycocine to a temperature of 120°–125° C. they combine and form hydantoic acid:[2]

$$\underset{\text{urea}}{CO\begin{cases}NH_2\\NH_2\end{cases}} + CH_2\underset{\text{glycocine}}{\begin{cases}NH_2\\COOH\end{cases}} = NH_3 + \underset{\text{hydantoic acid}}{CO\begin{cases}NH_2\\NH-CH_2-COOH\end{cases}}$$

and this dehydrated forms hydantoin; for by boiling the latter with baryta water it is converted into hydantoic acid:

$$\underset{\text{hydantoin}}{CO\begin{cases}NH-CO\\|\\NH-CH_2\end{cases}} + H_2O = \underset{\text{hydantoic acid}}{CO\begin{cases}NH_2\\NH-CH_2-COOH\end{cases}}$$

By heating urea alone to a temperature somewhat higher—viz., to 150°–160° C.,—condensation takes place and it is converted into biuret, $C_2O_2N_3H_5$.

$$2\underset{\text{urea}}{CO\begin{cases}NH_2\\NH_2\end{cases}} = NH_3 + \underset{\text{biuret}}{\overset{CO\begin{cases}NH_2\\NH\end{cases}}{CO\begin{cases}\\NH_2\end{cases}}}$$

If now we combine together hydantoin and biuret, we have the elements of water and ammonium urate:

$$\underset{\text{hydantoin}}{CO\begin{cases}NH-CO\\|\\NH-CH_2\end{cases}} + \underset{\text{biuret}}{\overset{CO\begin{cases}NH_2\\NH\end{cases}}{CO\begin{cases}\\NH_2\end{cases}}} = H_2O + \underset{\text{ammonium urate}}{C_5H_3N_4O_3 \cdot NH_4}$$

In performing Horbaczewski's experiment, when the temperature is raised to 120°–125° C. hydantoic acid is formed, and at 150°–160° C. the urea condenses into biuret. If, then, between 130° and 160° C. the hydantoic acid is dehydrated into hydantoin, which melts at 207°, and at that temperature or one something above, combined with the biuret in

[1] Strecker, Zeitschrift f. Chem. [2], iv., 215.

[2] Heintz: Jahresb. für Chem., 1865, s. 360.

the manner above shown, forming water and ammonium urate, we have a complete explanation of the process. That the synthesis takes place in this way I have confirmed in some measure by experiment. One part of hydantoin with four parts of biuret were treated in the same manner as in the experiment with urea and glycocine. Throughout the same results follow as when operating upon glycocine and urea, but the yield of uric acid is smaller. On evaporating the solution after the addition of hydrochloric acid, crystals are deposited which give the murexide reaction very distinctly, but as yet I have not been able to isolate the uric acid.[3] The constitution of glycoluril $C_4H_6N_4O_2$, which can be obtained from uric acid and from allantoin, also favours this view. By boiling glycoluril with acids it is converted into hydantoin and urea, consequently by combining these substances together in a suitable way we ought to perform the synthesis of glycoluril:

$$CO\begin{cases}NH-CH_2\\ \quad\vert\\ NH-CO\end{cases}+CO\begin{cases}NH_2\\ NH_2\end{cases}=CO\begin{cases}NH-CH\\ \quad\Vert\\ NH-C-NH-CO-NH_2\end{cases}+H_2O^4$$

hydantoin · urea · glycoluril

If, then, hydantoin were combined with biuret instead of urea, we should have

$$CO\begin{cases}NH-CH_2\\ \quad\vert\\ NH-CO\end{cases}+CO\begin{cases}NH_2\\ NH\\ NH_2\end{cases}$$

hydantoin · biuret

$$=CO\begin{cases}NH-CH\\ \quad\Vert\\ NH-C-NH-CO-NH-CO-NH_2\end{cases}+H_2O$$

and ammonia being given off, the compound would be

$$CO\begin{cases}CO-NH\\ \quad\vert\\ NH-C\cdot CO\\ \quad\Vert\quad\vert\\ NH-C-NH\end{cases}+NH_3+HO_2$$

uric acid

which is the molecular formula for uric acid given by Medicus, and the one most generally accepted.[5]

My explanation of the formation of uric acid in the animal economy, based on these considerations, is as follows. In the human subject glycocine conjugated with cholic acid is poured out as glycocholic acid, a constituent of the bile, into the intestine. After the bile has served its purpose in digestion, the glycocine as well as taurine are returned into the blood. These, together with the other amido bodies, leucine, and possibly tyrosine, the products of the digestion of albuminous food, reappear in the urine as urea; that is, the urine does not contain them, but its urea is proportionately increased. Now these amido bodies, glycocine, leucine, &c., are probably carried by the portal vein straight to the liver, and from certain facts which I need not here detail we are led to the view that among the numerous metabolic events which occur in the hepatic cells, the formation of urea from these bodies may be ranked as one. Suppose from some cause this metabolism of glycocine is interrupted (and I need only refer here to the interrupted metabolism of starch or glucose in diabetes as an illustration of what I mean), whilst taurine, leucine, &c., still undergo the normal changes with the production of urea, we should then have in the gland the two substances, glycocine and urea (or the immediate antecedent of urea), the conjugation of which by the gland (just as in the case of hippuric acid being formed from the conjugation of glycocine and benzoic acid) would produce hydantoic acid:

$$CO\begin{cases}NH_2\\ NH_2\end{cases}+CH_2\begin{cases}NH_2\\ COOH\end{cases}=NH_3+CO\begin{cases}NH_2\\ NH-CH_2-COOH\end{cases}$$

urea · glycocine · ammonia · hydantoic acid

which dehydrated would be converted into hydantoin

$$CO\begin{cases}NH-CO\\ \quad\vert\\ NH-CH_2\end{cases}$$

Hydantoin is easily soluble, and so would pass on in the circulation to be combined elsewhere with two molecules of urea or with biuret, which is also soluble, to form ammonium urate:[6]

$$CO\begin{cases}NH-CO\\ \quad\vert\\ NH-CH_2\end{cases}\begin{matrix}\\ +\\ \\ \end{matrix}\begin{matrix}CO\\ \\ \\ \end{matrix}\begin{cases}NH_2\\ NH\\ NH_2\end{cases}=H_2O+C_5H_2N_4O_3\cdot NH_4$$

hydantoin · biuret · ammonium urate

It may be urged as an objection that in order to produce hydantoic acid and biuret out of the body a temperature of 160° C. is required, and therefore that the body at the normal temperature of 37°–38° C. cannot produce this result. The fact that the conjugation of benzoic acid and glycocine takes place in the body at the normal temperature when benzoic acid is introduced into the alimentary canal, hippuric acid being formed and passing off in the urine, to effect which conjugation out of the body requires exactly the same temperature of 160° C., is a complete answer to such an argument. But I will show directly that the combination of urea, or its antecedent ammonium cyanate, with other bodies does actually take place in the animal body.

Horbaczewski, in his paper in the *Monatshefte*, also describes a method for obtaining methyl uric acid by synthesis. He says: "It was naturally to be expected that if in the previous experiment instead of glycocoll a derivative of glycocoll was employed, instead of uric acid a derivative of uric acid would be obtained. The experiment was performed with sarcosine, and confirmed this supposition. When sarcosine is heated in small portions (0·1 to 0·2 grm.) with five to ten parts of urea, after the method described for uric acid, and carefully warmed until the mass becomes solidified whilst hot—which can always be effected in the present case,—the residue is found to contain methyl uric acid. This can be demonstrated at once in the residue by the murexide test—in fact, a small atom generally gives a much more decided reaction than can be obtained from the uric acid residue. If the experiment has been successful, the reaction is very striking. The methyl uric acid can be separated from the residue in exactly the same way as described for uric acid. The purification of this compound can be effected far more easily than that of uric acid, and presents no difficulties whatever."

The changes which have taken place here are, I venture to suggest, of the same character as those indicated for the formation of uric acid. The sarcosine is combined first with

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[3] The reason probably is that the hydantoin combines more readily with the biuret in its nascent state—that is, as condensation of urea takes place—than with biuret fully formed.

[4] Strecker-Wislicenus: Org. Chemistry, London, 1881, p. 539.

[5] This explanation of the synthesis of uric acid indicates, I think, the way in which guanine, xanthine, hypoxanthine, theobromine, and caffeine may each be built up from glycocine, and thus showing their relationship to uric acid. By combining glycocine with formyl diamine

$$CH\begin{cases}NH_2\\ \\ NH\end{cases}$$

which is prepared from HCN, we should obtain the substance

$$CH\begin{cases}NH-CH_2\\ \quad\vert\\ N-CO\end{cases}$$

and this, united with two molecules of urea, or with biuret, would probably result in

$$CH\begin{cases}CO-NH\\ \quad\vert\\ NH-C\\ \quad\Vert\quad\vert\\ N-C-NH\end{cases}\begin{matrix}\\ \\ CO\\ \\ \\ \end{matrix}$$

guanine

From guanine the other bodies have been obtained; but it would appear probable that they should be synthesised independently. By combining glycocine, formyl diamine, guanidine (obtained from biuret), and urea, in the order given, xanthine would result. By acting on the compound of glycocyne and formyl diamine so as to obtain its methyl derivative

$$CH\begin{cases}N\cdot CH_2-CH_2\\ \quad\vert\\ N\longrightarrow CO\end{cases}$$

combining this with dimethyl carbamide, and then with urea, the resulting product should be caffeine. I have not had time to attempt these experiments since this mode of synthesis occurred to me. I hope to do so, however, during the summer, and so either confirm or refute the hypothesis.

[6] In the paper published two years ago I suggested that the synthesis might take place also, in another way, by the conjugation of glycocine first with biuret, which afterwards combining with urea would form ammonium urate; but this would give a different molecular arrangement for uric acid, and the actual production of uric acid from hydantoin and biuret shows that this is the correct interpretation.

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one molecule of urea forming methyl hydantoic acid, which dehydrated into methyl hydantoin and then combined with biuret forms ammonium urate:

$$CH_2\begin{cases}NH.CH_3\\COOH\end{cases}\ \underset{\text{sarcosine}}{}\ +CO\begin{cases}NH_2\\NH_2\end{cases}\ \underset{\text{urea}}{}\ =NH_3+CO\begin{cases}NH_2\\N.CH_3-CH_2.COOH\end{cases}\ \underset{\text{methyl hydantoic acid}}{}$$

$$CO\begin{cases}NH_2\\N.CH_3-CH_2-COOH\end{cases}\ \underset{\text{methyl hydantoic acid}}{}\ =CO\begin{cases}NH\text{——}CO\\N.CH_3-CH_2\end{cases}\ \underset{\text{methyl hydantoin}}{}\ +H_2O$$

$$CO\begin{cases}N.CH_3-CH_2\\NH\text{——}CO\end{cases}\ \underset{\text{methyl hydantoin}}{}\ +\ CO\begin{cases}NH_2\\NH\\NH_2\end{cases}\ \underset{\text{biuret}}{}$$

$$=CO\begin{cases}N.CH_3-C\ \ CO-NH\\NH\text{——}C-NH\end{cases}\ \underset{\text{methyl uric acid}}{}\ +NH_3+H_2O$$

Now methyl hydantoin has been actually formed after the administration of sarcosine to a living animal and detected in the urine. Considerable discussion took place at the time this was announced as to whether or not methyl hydantoin really appeared in the urine, and a number of experiments were made by Schultzen, &c. The importance attached to the question at the time arose from the fact that it appeared to demonstrate the existence of carbamic acid in the animal system, and to show that this acid was the immediate precursor of urea. A good deal may be advanced in favour of this view of the formation of urea, but as I have endeavoured to show that the antecedent of urea is ammonium cyanate, and as methyl hydantoin has been formed by mixing together sarcosine, potassium cyanate and ammonium sulphate, and digesting them at the temperature of the body (40° C.), the experiment with sarcosine possesses great interest and significance with regard to the steps by which uric acid is formed in the animal economy. In the *Zeitschrift für physiologische Chemie* Dr. J. Schiffer gives an excellent summary of the experiments and views of the others, together with an account of his own observations and experiments. From this paper[7] I take the following extracts:—

"Few investigations in the range of physiological chemistry have in recent times excited so much attention as those of Schultzen on the transformation of sarcosine in the animal body. In conjunction with Leon v. Nenki[8] he had previously found, on giving glycocine as food, the amount of urea excreted corresponded with the amount of N given. ..... He repeated his experiments with methyl glycocine, or sarcosine. Increased secretion of urea did not take place; on the contrary, two new bodies appeared in the urine, both having an analogous composition, the one compounded of sarcosine and carbamic acid, the other of sarcosine and sulphamic acid. The first of these bodies was identical in its constitution with methyl hydantoic acid, but was not recognised as such by Schultzen. He concluded from his investigation that the sarcosine attached to itself the carbamic acid resulting from disintegration of the albuminous bodies, and which in a normal condition gives rise to the production of urea. With this hypothesis it appeared very plausible that urea should disappear from urine containing sarcosine. He imagined, therefore, he had explained the mode in which urea was formed, and had thus solved one of the most important questions in physiological chemistry by the convincing proof of a carefully devised experiment. ..... Salowski found, after administering taurine, its uramido-acid tauro-carbamic acid in the urine.[9] ..... Later E. Bauman and Hoppe-Seyler[10] succeeded in forming methyl hydantoic acid synthetically under such conditions as might exist in the animal body. Equivalent amounts of sarcosine, potassium cyanate, and ammonium sulphate were digested at a temperature of 104° F., the potassium sulphate removed by alcohol, and the baryta salt of the acid referred to obtained. In a similar manner Salkowski[11] at the same time produced this acid, or rather, as it is easily decomposed, its anhydride, methyl hydantoin. So far everything seemed to confirm Schultzen's experiments. But when further experiments were made, essentially different results were obtained. These experiments were undertaken by E. Salkowski on the one hand, and Bauman and v. Mering on the other. The results obtained by all completely demonstrate the absence of sarcosine sulphamic acid. As regards methyl hydantoic acid, Salkowski[12] first stated that in the urine of dogs it appeared only in small quantity after the administration of sarcosine; whereas Bauman and v. Mering, in their experiments on the human subject, showed that after administering as much as 25 grammes of sarcosine, methyl hydantoic acid was entirely absent from the urine, and that Schultzen in his experiments could not have had this substance to deal with. At the same time they discovered a probable source of error in his experiments—viz., that in the presence of sarcosine Liebig's test for urea fails. They discovered also, as Salkowski also did, that a portion of the sarcosine appeared unchanged in the urine. In later communications Salkowski confirmed the view of Bauman and v. Mering, that after the administration of sarcosine there is no appearance whatever of methyl hydantoic acid in the urine. There appeared to be very little left, then, from Schultzen's experiments. One point only still remained for investigation. As the uramido-acids are so easily converted into their anhydrides, and as this is specially so in the case of methyl hydantoic acid and its conversion into methyl hydantoin, this latter substance might possibly exist in the urine after the internal administration of sarcosine. Salkowski has given great care and attention to this point, without, however, arriving at any definite proof. ..... This, then, was the state of the question when Professor Bauman informed me that methyl hydantoin reduces sulphate of copper in an alkaline solution, and asked me to make some fresh experiments with sarcosine founded upon this reaction." Schiffer then describes the experiments he performed to demonstrate the existence of methyl hydantoin in the urine, and thus sums up the result of his investigations:—"Our knowledge therefore of the destination of sarcosine in the organism may be formulated as follows: By far the greatest part is excreted unchanged: a smaller portion, one-fifth to one-sixth, is transformed into the uramido-acid we have been discussing, or rather into its anhydride (methyl hydantoin), and a smaller portion is oxidised into methyl urea."

Sarcosine, then, undergoes little change in passing through the system, but a portion is converted into methyl hydantoin. If, therefore, when glycocine is absorbed from the alimentary canal, it does not undergo the normal change, we may reasonably suppose that when brought in contact with ammonium cyanate it will be acted upon in the same way as sarcosine and a portion transformed into hydantoin, and thus we have the first step towards the formation of uric acid. Circulating in the system, the hydantoin may, under certain conditions, so affect the central nervous system, and thereby the metabolism in the kidneys, that when it arrives at these organs condensation of two molecules of ammonium cyanate may take place with elimination of ammonia, forming biuret, and this be conjugated with hydantoin; or this condensation may take place independently of the nervous system. Condensation of the cyanates readily takes place, as is shown by the action of acetic acid on potassium cyanate, forming potassium cyanurate and potassium acetate:

$$\underset{\text{pot. cyanate}}{3KCNO}+\underset{\text{acetic acid}}{2CH_3.COOH}=\underset{\text{pot. cyanurate}}{KH_2C_3N_3O_3}+\underset{\text{pot. acetate}}{2CH_3COOK}+2H_2O$$

Such a view, I think, meets all the difficulties which have been raised with regard to previous theories as to the formation of uric acid—difficulties which have been very clearly set forth by Dr. Garrod in his Lumleian lectures. Nor is it difficult to understand that, if, as I have endeavoured to prove, the final conjugation of two soluble bodies takes place in the kidney, forming the very slightly soluble ammonium urate 1—2400, a portion may not be excreted but remain in the blood, overflow as it were, and so pass on into the circulation; a result which certainly happens when the ureters are ligatured. The ammonium salt would then, meeting with the soda in the blood, be converted into sodium urate, the form in which it is deposited about gouty joints. The appearance, then, of uric acid in the secretion is the result

[7] Zeitschrift für physiol. Chemie, Bd. v., s. 267.
[8] Zeitsch. f. Biologie, Bd. viii.
[9] Berichte, Bd. vi., s. 744.
[10] Ibid., Bd. vii., s. 34.
[11] Ibid., Bd. vii., s. 116.
[12] Ibid., Bd. viii., s. 115.

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primarily of the non-transformation or metabolism of glycocine into urea, whether that glycocine be derived from the bile poured out into the duodenum or formed elsewhere in the body.

I now come to the question of the abnormal formation of uric acid in the human system. Just as in diabetes the essential fault lies in the inability of the system, either in the liver, or it may be elsewhere, to effect the metabolism of glucose, which then passes into the circulation and is discharged by the kidneys, so in gout or gravel the imperfect metabolism of glycocine is the primary and essential defect. Unchanged, it passes from the alimentary canal or elsewhere into the liver; there, under the action of the gland, it is conjugated with urea resulting from the metabolism of the other amido bodies, leucine, &c., and is converted into hydantoin; it then passes on to the kidneys to be combined with other molecules of urea or biuret, forming ammonium urate, a portion of which overflows into the circulation and is converted into sodium urate. It is not difficult to understand that in persons who are addicted to the pleasures of the table, who are fond of port, and who take little exercise, the liver should become "sluggish," that the gland cells should from overwork become inactive or destroyed, or that the terminations of the nerves should from excessive stimulus become somewhat paralysed, and the gland in some measure, like the submaxillary after the injection of atropine. The result would be the imperfect performance of its function and the non-metabolism of glycocine. But it is not every toper and gourmand who develops gout, nor is every gouty man necessarily a toper or gourmand. Further, it is certain that uric acid is also present in excess in the blood under other pathological conditions which have no connexion whatever with arthritic mischief. How are these facts to be explained?

Gulstonian Lectures
ON
SPASM IN CHRONIC NERVE DISEASE.

Delivered at the Royal College of Physicians of London, March, 1886.

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LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—In my second lecture I finished the remarks which I had to make on the connexion between the cerebral system of fibres and the clinical phenomena of spasm. I shall now proceed to a short consideration of the spinal system, and the relation between diseases which affect it and spasmodic contraction of muscles.

II. SPASM IN CONNEXION WITH SPINAL MOTOR MECHANISMS.

By the spinal system, I mean all those nerve-centres which occur between the central ganglia of the brain and the termination of the spinal cord. Each of these centres consists of afferent and efferent nerves and ganglionic cells; and as my object is to treat the subject from a general point of view, we may divide it into: 1. Spasm produced by diseases of efferent spinal nerves. 2. Spasm produced in a reflex manner by diseases of afferent nerves. 3. Spasm produced by diseases of the ganglionic cells.

1. *Spasm produced by Diseases of Efferent Spinal Nerves.*—A very large proportion of the cases in which spasm of muscles produces distortion are not to be explained by supposing that irritation of the diseased nerve gives rise to excessive muscular contraction. On the contrary, the healthy muscles are those actively concerned, while the diseased muscles are for the most part passive. Progressive muscular atrophy is a well-known instance of this, where a peculiar claw-like distortion is produced by atrophy of the interossei and the continued activity of other muscles (Fig. 42). Here the neuro-muscular disease appears to owe its origin to an affection of the large cells in the anterior cornua of the spinal cord. But even where no gross disease of nerve or muscle exists, it seems to be a rule that, when the origin and insertion of a muscle remain approximated for a certain time, the muscle contracts and gradually shortens. This frequently occurs in joint disease, and after prolonged application of splints. In the case of progressive muscular atrophy, the "claw" condition results mainly from atrophy of the interossei. These muscles extend the two distal phalanges and flex the proximal, and when their influence is removed the opposite condition prevails, owing to the action of opponents—namely, extension or hyper-extension of the proximal phalanges, and flexion of the peripheral. The case from which the drawing was taken was kindly sent me by Mr. Sidney Harvey. The patient was a woman aged twenty-seven, who was healthy in other respects, and the mother of a family. The disease had commenced in the left hand at the age of seventeen or eighteen.

Another instance of a similar kind is found in the disease called "pachymeningitis cervicalis," where the contraction varies according to the part of the cervical region which is affected. If that part from which the median and ulnar nerves emanate be diseased, the muscles supplied by the musculo-spinal nerve remaining intact produce the form of distortion in which the wrist is extended; while, if the upper half of the cervical region be the seat of the disease, the muscles innervated by the median and ulnar nerves produce quite a different form of distortion, in which the wrist is flexed.

Great interest has been taken of late in the effects of alcohol upon peripheral nerves, and some of our own countrymen have played a prominent part in the investigation

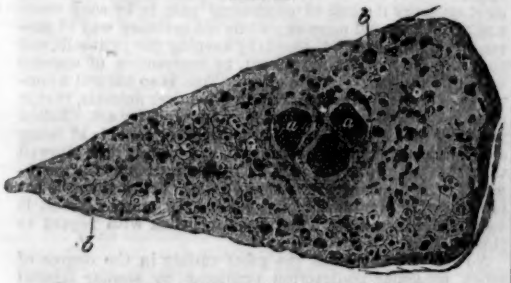
FIG. 42.

"Main en griffe" in a case of progressive muscular atrophy.

of them—Wilks, Buzzard, Dreschfeld, Hadden, and others. There is very little doubt that a multiple peripheral neuritis results from the circulation of this poison, and produces such symptoms as neuralgic pains, anæsthesia, paræsthesia, various degrees of paralysis and atrophy, mainly occurring in the extensor muscles, ataxia, abolition of tendon reflexes, vaso-motor disorders, and occasionally rigidity. Although our knowledge of this subject is not very advanced, it is probable that this rigidity is of the kind we are now considering—namely, rigidity of the more healthy muscles, which overpower their diseased opponents; and the latter being usually the extensors of the legs, rigid flexion results. Similarly, in cases of disease of the peripheral nerves and muscles on the extensor surface of the forearms produced by lead, rigidity of the opposing flexors is sometimes observed. As I have had an opportunity of making a post-mortem examination in a a case of atrophy of the nerves and muscles of the forearm from lead-poisoning, I have brought drawings which illustrate peripheral neuro-muscular disease due to this cause. The drawings were made from microscopic preparations of the muscles of a patient aged forty-eight, a plumber, who was admitted into St. Thomas's Hospital, under the care of Dr. Bristowe, on March 18th, 1882, and died three days after admission from coma following an epileptiform convulsion. The patient had had several attacks of intestinal colic and of gout, and had also had "dropped hands" five or six years previously, from which he said he made a complete recovery. For the two months preceding his admission he had been labouring under general dropsy and wrist-drop. His arteries were found to be rigid, his heart hypertrophied, and his urine albuminous, with specific gravity 1011. He had paralysis, with marked wasting of the muscles of the forearm, mainly the extensors, and also of the thenar and hypothenar muscles, and of the interossei.

At the post-mortem examination, the heart was found to weigh 22 oz., the valves being competent. The kidneys were contracted, hard, and granular on the surface, and weighed 8 oz. The common extensors of both forearms were pale and atrophied, and quite unlike the healthy muscles, the supinator longus being among the latter. The posterior interosseous nerve was soft and greyish, while the median and others were firm and white. The microscopic sections of the extensor muscles from which the drawings were made showed the following peculiarities (Figs. 37, 38, 39, 40, 41):—Longitudinal section: (1) Here and there were seen well-formed, large, striated muscular fibres; (2) atrophied, but striated

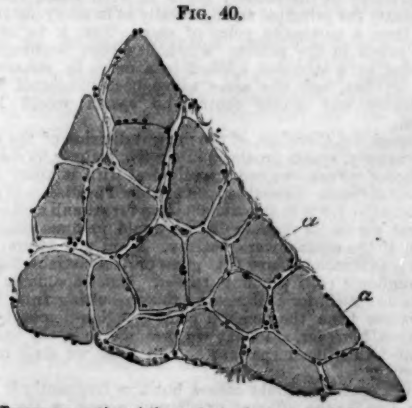
FIG. 38.



Transverse section of the common extensor of the forearm in a case of lead-palsy. The darkly shaded masses in the centre (*a*) are the largest muscular bundles left, most having been reduced to very small dimensions (*b*).

fibres, many extremely thin; (3) waxy-looking, non-striated fibres, some of fair size, some very small; (4) strands of wavy tissue, where no muscular fibres could be distinguished, but where long rows of nuclei were seen, like necklaces, often running parallel to each other, and quite close together; (5) very thick-walled vessels. Transverse section showed the muscular bundles very small, each one having a homogeneous appearance, and presenting nuclei irregularly distributed upon it. The nerves were so altered as to be incapable of recognition. The sections of the spinal cord in the cervical region showed no evidences of disease. The

FIG. 40.



Transverse section of the supinator longus muscle from a case of lead-palsy, showing the unaltered muscular bundles (*a a*).

supinator longus, as is well seen in the drawings, was practically healthy.

In all these and similar cases, the diagnosis depends upon the electrical reactions of the nerves and muscles in the affected part. For where the rigidity is directly produced by contraction of the affected muscles, the electrical conditions in them closely resemble those of health. Whereas, when the distortion is due to atrophy of one set of muscles, owing to disease of the peripheral nerves supplying them, what is called the "reaction of degeneration" is found in them. Setting aside such cases as these, in which the distortion is produced by rigidity, not of the diseased muscles, but of their healthy opponents, there exists still another class, in which contracture results from the shortening of diseased muscles, it is true, but nevertheless does not depend upon true spasm. We may take as an example the following case.

Case of Distortion of Arm due to Shortening of Degenerated Muscles.—On August 11th, 1885, I saw, with Mr. Clutton, a boy aged five, who had fallen down in April and fractured the lower end of the right humerus. He was treated with anterior and lateral rectangular splints for one month, and was then found to have loss of sensation and of voluntary power in the hand and forearm. The friends took him to Mr. Golding-Bird, who applied electricity daily for one month, without producing any improvement. When I saw the boy, his right forearm was rigidly pronated and the wrist partially flexed. The fingers were flexed at the peripheral joints, and slightly over-extended at the metacarpo-phalangeal joints. On attempting to overcome this condition and extend the wrist, the deep structures along the flexor surface of the ulna got tense and hard, and on bending up the elbow-joint they were again relaxed. The tips of the fingers were anæsthetic as far as the proximal phalangeal joints. The thumb had not lost sensation. The question which presented itself to us was, whether this rigidity was due to muscular spasm, or to shortening of muscles, &c., from disease. Dr. Kilner tested the muscles electrically with me, and found that, while all the extensor muscles of the forearm reacted normally, the flexors could not be brought into action even by the strongest currents. The muscles were therefore clearly in an advanced condition of degeneration. To confirm this conclusion, the child was put well under chloroform, but no change whatever occurred in the limb; all was as rigid as before. Here, no doubt, we had to do with inflammation and subsequent degeneration of nerve and muscle, and the cicatricial contraction which accompanies it. Electricity and chloroform are our principal aids in the diagnosis of such cases.

Dr. Alliott, of Sevenoaks, kindly sent me a man, aged sixty-five, who had dislocated his left shoulder-joint five months previously. On examination of the arm, almost complete paralysis of all the muscles was found with but little alteration of sensation. The elbow, wrist, and fingers were all somewhat flexed, and incapable of extension; but still there was no active contraction of muscles, for even the strongest faradaic current produced no effect in them.

In certain cases of long-standing facial paralysis, the muscles on the affected side are evidently shortened, for the angle of the mouth is drawn to that side, and the orbicularis orbis partially closes the corresponding eye. And yet the effect produced by speaking or by laughing is most curious, the affected side remaining motionless. In these cases, the electrical reactions of the muscles supplied by the diseased facial nerve show almost complete degeneration, which has been accompanied with permanent shortening.

If so many cases of distortion are due to other causes than active contraction of the muscles supplied by the affected nerves, the question suggests itself, Does chronic muscular spasm occur at all from direct irritation of motor nerves? Let us take some of the most frequent and familiar examples of peripheral nerve-disease. Musculo-spiral paralysis is often seen in quite the early stages; but we do not see, nor do we hear the patient describe, muscular spasm as one of its symptoms. The same may be said of most cases of facial paralysis due to peripheral causes. In chronic poisoning by lead and alcohol, various nerve symptoms are met with, including paralysis, and even muscular rigidity occasionally; but, as has already been pointed out, this is due to the contraction of antagonists, and not of the diseased muscles themselves. In sciatica, from various causes, we meet with twitchings and sudden muscular contractions; but they are very transitory. Again, if we look at those cases where motor or mixed nerves are pressed upon and irritated by new growths, pain is a very prominent symptom, and spasm seems scarcely to occur, though twitchings and transitory contractions are observed. A case which I have already related affords a good example of a tumour pressing upon a purely motor root. The new growth was a myxoma, which grew in connexion with one of the left anterior spinal roots, and gave rise to symptoms in the left arm. These were weakness and attacks from time to time of pain and cramp, but no prolonged spasm was ever produced.

Dr. Bristowe has written a paper on "Painful Paraplegia" in St. Thomas's Hospital Reports, vol. xii., in which he

relates several cases of paralysis accompanied by pain, which owed their origin to malignant tumours involving peripheral nerve-roots. Some of these cases I saw myself, and also examined post mortem. Evidence of spasm occurs in only one case, where the limbs are said to have become stiff occasionally.

Clonic spasm is not unfrequently seen in late stages of facial paralysis, when there is shortening of the muscle from atrophy. Electrical examination shows that the latter condition is present, and also that a certain amount of muscular tissue, capable of active contraction, remains. The clonic spasms result from irritation of the nerve and muscle which has survived the process of destruction. In cases of meningitis at the base of the brain, spasm of the muscles supplied by the motor nerves involved is not observed. In spinal meningitis, on the contrary, it is a very marked symptom. Here, however, it is not improbably of a reflex origin, and not due to direct irritation of motor nerves.

Tetany (Fig. 43) is a disease in which the presence of some, although generally trivial, alteration of sensation, increased electric irritability of nerve and muscle, and prolonged muscular spasm suggest a peripheral cause. The pathology of this affection cannot be said to be known, and opportunities of examining cases post mortem rarely fall to the lot of pathologists. Dr. Hadden kindly gave me the opportunity of examining microscopic sections of the nerves and muscles of the affected parts, which were taken from a child who died from diarrhœa while suffering from tetany. At first I thought there were changes to be made out, but

FIG. 43.

The hand in a case of tetany.

on procuring sections from the same parts in a healthy child of the same age (sixteen months), who had died of an acute disease, and comparing them with those from the subject of tetany, I came to the conclusion that there was very little difference between them. Looking at my own experience, I should say that while occasional spasm occurs not unusually in peripheral nerve disease, from direct irritation of the motor filaments, and may even be permanent in disease of the facial nerve, it is quite the exception to find muscular contractions among the marked phenomena of such cases.

Weir Mitchell, who has had a very large experience of injuries and diseases of peripheral nerves, writes thus on the subject:[1] "Increase of bulk, proliferation of connective tissue, and wasting of nerve tubes are consequences of chronic neuritis..... The nerve tubes in large part perish or waste, and the symptoms affect at first rather the sensory sphere than that of motility. We have pain and anæsthesia, or hyperæsthesia, but not, as a rule, local convulsions..... In certain cases the nerve-wound, in place of causing primary loss of motility, occasions either sudden muscular contraction, followed by instant loss of power, or, in very rare instances, long-continued spasm..... Tonic contractions of muscles are occasionally met with at a later stage of these injuries, but are, perhaps, among the rarest of the secondary symptoms." Looking, then, at the experience of Weir Mitchell and others, we may safely conclude that muscular spasm is rarely caused directly by chronic disease of peripheral motor nerves.

[1] Injuries of Nerves and their Consequences, 1872.

2. *Spasm produced in a Reflex Manner by Disease of Afferent Nerves.*—There is scarcely a more difficult subject in the whole range of nerve pathology than that of reflex spasm. Cases of general convulsions, as well as of local spasm, are so frequently explained in this way, and are in so many instances quite insufficiently supported by scientific evidence, that one cannot help coming to the conclusion that many cases are accepted as of reflex origin which, at any rate, carry very little conviction with them. Some reasons can be adduced for the difficulties which beset the diagnosis. Many of these cases occur where some sensory nerve is the seat of severe pain, or where a part is diseased which is painful to move. A good example of the former class are spasms of the muscles of the face, accompanying facial neuralgia; and of the latter, rigidity in joint disease. But the most ordinary method of expressing pain is by some over-action of the facial muscles; while the ordinary way of preventing pain in joint disease is by keeping the joint still, and opposing attempts at movement, by contraction of muscles which produce an opposite effect. This is so natural a contrivance, not only in man, but in the lower animals, that it must be looked upon as almost an involuntary act. Reflex muscular acts are in very different degrees capable of being controlled or modified by the will, and even if it be allowed that the latter plays a part in the limitation of the movements of a diseased joint, this does not prove that the act is not partly involuntary and reflex. In many cases it is very difficult to form a definite conclusion with regard to this question.

No one who observes the great variety in the degree of reflex muscular contraction produced by similar stimuli applied to different individuals can be surprised at finding evidence that persistent spasm occasionally occurs as the product of a reflex act, or that a stimulus which produces no motor result in one person gives rise to definite muscular contractions in another not equally healthy. Thus in hemiplegia accompanied by descending sclerosis in the lateral columns deep reflexes are much more brisk than they were before the hemiplegia occurred; and contractures, Brissaud says, may be suddenly increased by comparatively slight injuries. If this increased reflex excitability be due to the hyperphysiological activity of the spinal centres, which have been loosed from cerebral control, similar disorders of nerve centres rather than of nerve fibres are probably the most fertile causes of reflex spasm. So that it is scarcely too much to say that the injury or disease which supplies the stimulus to the sensory nerve in such cases, though apparently the principal agent, is really so in many instances only from a particular point of view. That is to say, a mine exists in the patient which has been accidentally exploded by a stimulus applied to a nerve in connexion with it; but, had the same nerve been connected with a healthy and stable centre, no spasm would have ensued.

In speaking, therefore, of the present division of the subject—namely, spasm produced in a reflex manner by disease of afferent nerves—we can scarcely deal with it apart from the next division—namely, spasm produced by disease of ganglionic cells; for it is questionable how far stimuli applied to afferent nerves in chronic disease would produce muscular spasm if the centres were healthy. I am not aware that there is evidence to show that gross or demonstrable disease of ganglionic cells produces spasm. But impalpable disorders do; such, for instance, as those resulting from their separation from the cerebral centres. Non-demonstrable disorders, however, are what we presume to be the basis of so-called functional spasms; and to these we shall revert presently.

Reflex spasm no doubt occurs, but how frequently it does so, or how far the afferent or efferent nerves or the nerve centres take the leading part in its production, are points which can scarcely be estimated. As good an instance as I know of reflex spasm is recorded by Mr. Clutton in the St. Thomas's Hospital Reports (vol. x., p. 64). A boy, aged fourteen, had been bitten in the face by a dog eighteen months previously. The spot had been painless until a month before his appearance at the hospital; but since that time he had suffered from constant shooting pains in the neck, which always started from the scar. At the same time that the pain was felt, the angle of the mouth was drawn outwards, and the skin of the neck was wrinkled by the action of the platysma; the whole side of the face and neck blushed, and then became bathed in perspiration. This succession of symptoms recurred every time the scar was

pinched. Croton chloral hydrate in five-grain doses twice a day soon cured the affection.

Weir Mitchell, in his work on Injuries to Nerves, gives instances of reflex muscular spasm; and this condition is often referred to intestinal, uterine, or other irritation, but often without sufficient reason. Charcot has written a good deal in support of the view that various affections of joints may give rise to rigidity of muscles in a reflex way; and it certainly is very difficult to explain them otherwise. The following case appears to me to be one of this kind.

Case of Persistent Muscular Spasm due to Joint Disease.—F. W——, aged sixteen, was an out-patient at St. Thomas's Hospital, under the care of Mr. Clutton, in February, 1884. I saw the case with him, and the following is the clinical record which he took while the patient was under his treatment, and which he has kindly put at my disposal. She was sent to him by Mr. Mercer, of the Bath Mineral Water Hospital, with the following history. During May, 1883, she had had rheumatic fever, and the joints chiefly affected were the wrists and ankles. For three months the wrists were placed in splints, and in the autumn of the same year she was sent to Bath with perfectly stiff fingers and wrists. Passive movement was employed, which made the fingers pliable, but which left the wrists as stiff as ever. The accompanying illustrations (Figs. 44 and 45) show the condition which existed when the case came under Mr. Clutton's notice. The photograph was taken by Mr. Charles West. Both hands were in the same condition. On attempting to move the wrist-joint, the flexors and extensors alike resisted, and could not be overcome. Taking them by surprise produced no better results. When the patient was placed under ether, the muscles yielded to attempts at flexion and extension, but the rigidity did not entirely disappear. There were but few adhesions in the joint, and these readily gave way under the anæsthetic, but left the state of affairs practically the same as before—that is to say, the wrist could be flexed or extended, but on removing the force the hand again assumed the position shown in the illustration. When the wrist was extended the fingers always became flexed, and when it was flexed they became extended. The patient could voluntarily extend or flex the phalanges, and could separate the fingers. The thenar muscles also acted normally. The wrist was rigid, and could not be moved in either direction, and there was slight hyper-extension at the metacarpo-phalangeal joints, which was easily overcome voluntarily when the patient flexed the fingers. Dr. Kilner tested the electrical condition of the nerves and muscles, and found it normal.

Let me here briefly refer to a class of spasmodic affections which appear to have the same explanation as tendon reflexes. Whether explicable as a reflex or purely local phenomenon, contraction of muscles occurs when they are put on the stretch by their antagonists; and this has the effect of controlling and steadying movements which might otherwise be jerky and uncertain. When the influence of the lateral columns of the cord is removed, the spinal centres in which reflex acts are produced in relation with parts below the level of the lesion are brought into a state of excessive activity, and stretching of a tendon produces an abnormally sudden and extensive contraction. This is very probably the cause of the tremors in the direction of movement seen in cases of disseminated sclerosis. But it is probable that some cases may have a peripheral origin. A medical friend of mine informed me that he once took a vehicle in order to drive to a house where he was going to stay for a while. The driver put him down two miles and a half from his destination, and drove off. The medical man had rather a heavy bag, and, being unable to get another conveyance, he carried it himself. For four days after this walk he suffered from pretty constant contractions of the triceps muscle of his right arm, whenever he flexed the latter. In this instance the muscle had been what we call strained, the tendon had been unduly pulled upon, and when the arm was flexed the slight increase of tension made the triceps contract. Such a case represents a very small departure from the normal, but suggests an explanation of more troublesome affections—such a one, for instance, as the following.

Case of Persistent Rhythmical Contraction of the Palmaris Longus, due to Injury.—On July 7th, 1878, I saw a girl, aged nineteen, who had had her wrist bent backwards and sprained five years previously. The parts injured had swelled, and she had been obliged to carry her arm in a sling for some weeks. Ever since that time she had suffered without intermission from twitchings of the arm and palm of the hand. On examination, I found that the general power of the arm was unimpaired, but that there were spasmodic contractions of the palmaris longus muscle, occurring with perfect regularity ninety times in the minute. The contractions were energetic, and showed the muscle and its attachments very beautifully. In this case, probably the palmaris longus had been stretched, and the peripheral nerves ending in it had been rendered more irritable, the result being that the slight tension of it, which occurs ordinarily in the act of extending the wrist, caused the muscle to contract. This, occurring frequently, gave rise to a neuro-muscular habit.

The following is a somewhat similar instance. Mr. Clutton once showed me a girl, aged ten, who had fallen down a week previously and slightly sprained her right wrist, but had done herself no other damage. I found her suffering from an affection which had come on immediately after the fall. Her right arm was in a position midway between pronation and supination, and was the seat of perfectly regular tremors of very small excursion, such as one sees in paralysis agitans, occurring in a direction transverse to the longitudinal axis of the limb.

Other pathological conditions, as well as injuries, may produce these rhythmical spasms. In January, 1886, a girl, aged fourteen, was in St. Thomas's Hospital, under the care of Dr. Bristowe, for rhythmical contraction of the occipito-frontalis muscle on both sides, which occurred from fifty to sixty times in the minute, and had been going on for some months. The history she gave was that she had had a very bad attack of "erysipelas of the face," commencing on the forehead and spreading downwards. The onset was sudden, and the description she gave of the affection corresponded with that of erysipelas. Roughness and pigmentation of the skin of the forehead could still be seen. As the disease got well, the contraction of the occipito-frontalis muscle supervened, and continued for months without intermission, except during sleep. The original cause of this condition was probably an irritable state of the muscle and tendon owing to inflammation, and an involuntary neuro-muscular habit was soon developed. Although the girl showed no evident hysterical peculiarities, I found that she had marked localised tenderness over those regions which Charcot has found to be unduly sensitive in hysterical subjects. Moreover, information which I subsequently obtained proved that at least one other member of her family was hysterical, for, while the patient was still in the hospital, her sister, aged eleven, was admitted under Dr. Bristowe's care, suffering from a similar affection. The latter had been under me as an out-patient for fits, which were evidently hysterical; and at the early age of eight years she had had an attack of rhythmical spasm of the occipito-frontalis muscle, which lasted three months and then got well. When I saw her in the hospital during the second attack, I found that the muscle was contracting pretty regularly 120 per minute, and this condition was accompanied with sighing, yawning, slight movements of the tongue, partial loss of sensation on the left side, pain in the left hip and knee, and drawing up of the left leg so as to produce distinct shortening.

Other cases of spasm from peripheral injury are more complicated, but appear to be reflex in their origin, whether the pathological stimulus acts upon the nerves which exist in muscles and tendons or upon other afferent paths. The following is an example.

Case of Spasmodic Movements of the Jaw, the Floor of the Mouth, &c., due to Injury.—On Nov. 20th, 1877, a boy, aged ten, came to St. Thomas's Hospital on account of a peculiar affection which he had had for five days. There was nothing noteworthy in his family or personal history, except that he had suffered from incontinence of urine. Five days before coming to St. Thomas's he had been in a playground where his schoolfellows were having a game of football. He happened to be in their way, and one of them took him by the back of the neck and threw him to one side. His neck pained him at the time, but by the following day the pain was gone. In its place, however, was a peculiar affection, consisting of constant movements of the lower jaw and of the floor of the mouth, and they had increased since then. As he stood in front of me, I saw the lower jaw and the floor of the mouth descend in regular and frequently recurring jerks, and when the boy's mouth was open it was seen that the tongue was likewise jerked spasmodically downwards and backwards. In addition to this, the larynx

descended slightly, and the depressor muscles in the neck could be seen contracting. Each downward movement was accompanied by a sound like the croaking of a frog. Neither the faradaic nor the galvanic current applied from the nape of the neck to the parts below the jaw had the slightest effect on this curious condition. I gave the child some bromide of potassium, and sent him away. Nine months after that I saw him, and he was nearly but not quite well.

As I have already said, it is a matter for speculation how far such causes would give rise to spasm, if the nerve-centres were in a normal condition. What is really developed in these cases is an involuntary neuro-muscular habit. We are all familiar with the ankle-clonus which is set up sometimes in healthy people when sitting with the toes on the ground and the heels a little raised. If we start the clonus voluntarily, or if it has occurred several times in succession involuntarily, it may be difficult to stop it by an effort of the will, unless the position of the legs be altered. This is probably a physiological representative of certain cases of muscular spasm which assume pathological dimensions.

I have now come to the end of the remarks I have to make upon the first two divisions of spasmodic affections in connexion with chronic nerve disease—those, namely, which result from pathological changes in the cerebral motor mechanisms on the one hand, and the spinal motor mechanisms on the other. The third division, and that the most difficult of all, remains still to be dealt with, and is coextensive with what are called functional spasms. As I have already pointed out, the first two divisions should, and we may hope some day will, cover the whole field of spasmodic affections; and by placing functional diseases under a separate heading we publicly confess our ignorance, and proclaim that there is a very long list of spasmodic affections which have been carefully observed without success, so far as their pathology is concerned. In lectures professing to deal, however perfunctorily, with spasm, it would be impossible to pass by in silence the class referred to. It remains, therefore, for me to consider how far these functional diseases are capable of explanation or reasonable classification.

(To be concluded.)

ABSTRACTS OF THE

Lumleian Lectures

ON THE

ELECTRICAL CONDITIONS OF THE HUMAN BODY.

By WILLIAM H. STONE, M.A., F.R.C.P.

LECTURE I.

AT the outset Dr. Stone asserted that he was not going to treat of so-called medical electricity. Electricity had not risen to expectation as a means of treatment of disease. To say that electricity is life is untrue. He proposed to treat of certain physical conditions of the human body in its relation to electrical currents, and to concern himself more with the inorganic and physical than with the physiological side of the problem. The importance of placing the physiological and medical application of electricity on a physical basis of absolute measurement was obvious. The earlier methods of detecting and estimating the existence of electrical currents were too indefinite and unmeasured to be of any scientific value. The galvanoscopic frog was a delicate but uncertain method of estimation—entirely empirical and unmeasurable. Professor Hughes had shown that the telephone can be used in the place of a galvanometer; this was demonstrated to the audience by telephones placed at intervals round the room, and the intensity of the sound in the instrument was made to vary by increasing and diminishing the distance between the primary and secondary coils.

Dr. Stone next proceeded to the main subject of his first lecture, which was to determine the resistance of the human body to the passage of electricity. Previous workers on the electrical conditions of the human body had been unable to estimate its resistance, or had made very erroneous statements from a variety of causes. Dubois-Reymond, Count du Moncel, and others had worked at the subject of animal electricity, but with scanty results. Volta, Humboldt, Lenz, Fechner, and Gilbert had all investigated the subject of electrical resistance of animal tissues. Dubois-Reymond practically gave up the problem of estimating the electrical resistance of the body as a whole. Serious errors were made because the occurrence of polarisation was not taken into account. The resistance, moreover, varied greatly, as Dr. Stone was the earliest to show, according as a low tension be employed or one of high tension, as from the induction coil; the resistance, indeed, was totally and entirely different in the two cases. The Count du Moncel experimented on his wife, and at least succeeded in demonstrating the electrolysing capacity of animal tissues, as permanent scars left by tremendous ulcers testify in the person of the lady to this very day, though the Count has long since gone to his last rest. He estimated the resistance of the body to electricity in terms of the Swiss and French unit, this being taken as one kilometre of telegraph line. Actually his numbers were 350 to 220 kilometres of telegraph line as the approximate resistance, but he employed very small electrodes, and this vitiated the result, as Dr. Stone afterwards showed. Still it was astonishing, considering the imperfect methods used, that so near an approach was made in ascertaining the real resistance of the body. The Swiss unit of one kilometre of iron wire is equal to about 10 ohms. The Count's lowest estimate of 2200 ohms (220 kilom.) was not grossly inaccurate.

The two chief difficulties that exist in the estimation of the resistance next occupied attention. One was the difficulty of making good contact. The older workers never made good contact. Electrodes 4½ cm. by 3½ cm. were employed; these being not nearly large enough. The body might be regarded as a cable, consisting of a mass of conducting material contained in a good insulator. In dry atmospheres human skin rubbed against woollen tissue developed electricity with facility, and this was the explanation of the electrical boy, who by friction on the carpet developed electricity. Again, the human body rapidly electrolyses; it might be regarded as a secondary battery of no inconsiderable power. It also had what Dr. Stone formerly spoke of as electro-chemical capacity, the body being regarded as a condenser. But in order to be in harmony with the recent results of Professor Hughes this capacity would better be named self-induction. It was most important to determine the resistance of the tissues which were insulated by the skin. In order to arrive at it we should make the contact, mathematically speaking, infinitely large. The resistance due to the skin Dr. Stone showed by using salt-and-water, and very large leaden poles could be brought down to zero. He obtained, in fact, the best contact by using a broad ribbon of lead wound round the skin, which gave very perfect contact over a sufficiently large area. The variability of result as to resistance owing to the high insulating power of the skin could be done away with by obtaining perfect contact. Estimations were made from definite anatomical points; the styloid process of the ulna and the external malleolus of the fibula were very useful for the purpose. Instead of the deflecting galvanometer he used Wheatstone's bridge, or a modification of it. Small bichromate batteries were good, but pure chromic acid ones even better. Each of these elements gave an electro-motive force of two volts. As electrodes he had tried powdered wet carbon, spongiopiline, and surgical serrefines inserted through the skin. The last was exceedingly painful, and the others not so good as leaden appliances. By allowing the current to pass from foot to foot the largest quantity of tissue could be operated upon; from hand to hand was also useful, but those estimates taken from hand to foot were of great value. The distance from one hand to the other corresponded fairly to a man's height. The following table shows some results from the living human conductor:—

	Height.	Measurement from hand to foot.	Resistance.	
			Foot to foot.	Foot to hand.
	ft. in.	ft. in.		
Mr. T——	5 6	5 9½	945 ω	1320 ω
Mr. S——	6 3	7 0	930 ω	1027 ω
Hungarian giant ...	7 6	8 7	930 ω	1032 ω

The resistance might be measured by using momentary contacts; the results were, however, vitiated by electrolytic action that was set up by the electrical current acting on the tissues, a counter electro-motive force being set up. By

employing alternating currents errors also crept in, owing to the electro-chemical or voltametric capacity of the human conductor. The resistance of a St. Thomas's Hospital porter's tissues by using the alternating currents was determined with the aid of a galvanometer and found to be 1160. But polarisation setting in causes usually a steady rise in the resistance; chemical decomposition taking place inside the body develops an opposing electro-motive force. Dubois-Reymond asserted that he had not taken the trouble to ascertain the human resistance, but Dr. Stone believes that he really gave it up in despair owing to his obtaining such variable results. The lecturer said that at the suggestion of Dr. O. Lodge he had adopted Kohlrausch's principle, the apparatus consisting of an induction coil and telephone. This will be explained in another lecture.

Reference was next made to Sir Henry Mance's method of measuring resistance; this eliminated the errors due to polarisation and electrolysis. The body might be regarded electrically as a faulty submarine cable; it was for this that Mance employed his method, but Dr. Stone now used it for investigations on the human body. It appeared that Mance had already made a few observations, and actually determined the resistance of the human living conductor at 900 to 1100 ohms. Rosenthal's estimate of 8 to 20,000 ohms was much beside the mark. In Mance's method a modified Wheatstone bridge was used; it allowed polarisation to do its worst. The following simple formula showed the method of estimation of resistance:—

Let $P_1 = R$. of coil A and $P_2 = R$. of coil B
$R_1 = R$ with coil P_1 and $R_2 = R$ with coil P_2

Then $$X = \frac{(R_1 - P_2)(R_2 - P_1)}{(P_2 + R_2) - (P_1 - R_1)}$$

Or $$X = \frac{A - B}{C}$$

It was ascertained by experiment on the porter that the resistance rose 7 ohms from polarisation, and Dr. Stone stated that, as a rule, the resistance increased whilst the current was passing through the body. Some observations had been made by other investigators and at different times than those of his own—especially Mr. Lant Carpenter; and it was interesting to note that the results were practically the same, though different kinds of apparatus had been used. Thus with an electro-motive force of 2 volts the resistance for the first minute was found to be 1194 ω, but at the fourth minute 1230 ω; with 4 volts at the fourth minute, 1155 ω; with 8 volts (Dr. Stone) the first minute gave 1130 ω, the fourth minute 1160 ω. It seemed clear, then, that the human resistance was much less than had hitherto been supposed. Further, Dr. Stone found that if the patient had been in sound health the size of the individual made no difference, as the table already given shows, where, if anything, the smallest man gave the highest resistance. As is the length of the levers of the body so is the sectional area of the muscles that move them. He would not assert, however, that the law was universal. In disease considerable differences obtained. Mr. Cunynghame had taken the resistance of the human body as 2000 ohms, with a view to determine the real limits of safety for electric lighting, and this was a difficult matter. Accidents happened with powerful dynamos, but it was almost impossible to ascertain their frequency or anything about them; they were seldom made public, and generally hushed up, probably because it was thought by the promoters of electricity for useful purposes that publicity of the facts relating to accidents might interfere with the future success of the industry.

Dr. Stone next considered a few of the alterations in resistance that occurred in certain diseases. The point was not yet settled whether the human body acts as a solid or as a fluid conductor; the behaviour of fluids and solids to heat showed that there was a considerable difference in their molecular structure. In his opinion the tissues did not act as fluid conductors. It was ascertained that dropsy enormously reduces the resistance. It sank to one-half in one case which Dr. Stone had the opportunity of investigating before and after the appearance of dropsy; this did not seem as if muscle acted as a fluid conductor. In fact, muscle was more resistant in good condition than when replaced by connective tissue. The lecturer had investigated six cases of very old hemiplegia; the difference of resistances respectively between the sound and diseased side were 420, 350, 360, 120, 550, and 730 — results so different from the normal 1000 that he considered them as not to be explained by mere accident. Certain cases of impregnation of the body by metallic impurities were also ascertained to alter considerably the resistance to the passage of electricity Thus in a case of mercurial intoxication there was a considerable increase in the conductivity of the tissues, which was not so marked in lead-poisoning. In a case of impregnation by copper, where the right hand was most affected, it was found that this hand gave less resistance—was, in fact, a better conductor than the left. The urine in this case was decomposed by electrolysis and 3 milligrammes of metallic copper obtained. As to the influence of pyrexia, Dr. Stone quoted some results, which have already been published in *Nature*, in a case of ulcerative endocarditis; the general result, which requires confirmation by further observations, was to the effect that the resistance in fever is greatly decreased.

THROMBOSIS OF THE CORONARY ARTERY DURING ETHER ANÆSTHESIA.

SUDDEN DEATH AFTER THREE WEEKS.

BY WALTER MOXON, M.D., F.R.C.P. LOND.,
PHYSICIAN TO GUY'S HOSPITAL.

MR. PETER GOWLLAND had operated for some anal trouble upon a gentleman who was staying at an hotel in Finsbury. The wound had healed; it had been only a small incision, not confining the patient to bed. At the time of the operation ether was administered, and it was noticed that a great deal of ether was required to produce full anæsthesia, but beyond this no signs of any unusual occurrence were observed. Three weeks after the operation the patient was found dead on his bed. The body was naked, already cold, and in full rigor mortis; it was twisted as in suffering, the face turned to the pillow. A light was burning in the room, the time being near midsummer. From all the circumstances it was evident that the deceased had been seized with sudden illness, and had died as he was undressing for bed. A brother who had been a good deal with him in the last few months said that there had been no complaint made by him. A servant at the hotel had seen Mr. Gowlland's patient go upstairs to his bedroom about 11 P.M. on the night of his death, and had noticed the alacrity with which he ran up the stairs; she remarked that he appeared to be an active, vigorous sort of person, in good spirits.

On inspection, seventeen hours after death, the body was well nourished and younger looking than the stated age. There were no signs of decomposition. The examination discovered nothing whatever of a morbid nature except in the vascular system. The state of the heart at once drew attention. Its left side, especially the ventricle, was much distended with liquid blood, the right cavities being distinctly less loaded than usual. The substance of the heart was very soft and flabby, although rigor mortis was strong in the trunk and limbs. The endocardium and endarterium were stained red, showing that the red blood-corpuscles had partially disintegrated since death. The relatively empty state of the right heart, taken with the distended condition of the left, proves that the cause of death had not been any kind of obstruction to respiration, but was due to failure of the left ventricle after the left auricle had acted. Death was due to syncope in cardiac diastole. On proceeding to examine the heart more narrowly, the course of the coronary vessels could be traced with the finger, these arteries feeling like threads of stone in the rather considerable amount of fat which followed the lines of the inter-ventricular grooves. The inside of the aorta was found, on the other hand, to be in a good state of preservation for the age of the individual. There were but a few patches of quite superficial degeneration, and these did not implicate the mouths of the coronary arteries, which were of normal size, readily admitting an ordinary probe. But on opening up the left coronary artery with a fine pair of scissors, its walls crackled and broke, with a fractured stony edge, and this went on as the course of the vessel was followed until reaching about two-fifths of the way down towards the apex of the heart. At this point the channel of the vessel proved to be partially obstructed.

It was the point of origin of a rather large branch, which went towards the left ventricle, and this branch was filled with a thrombus, which projected into the channel of the parent vessel, so as to almost close it. It should be noticed that the blood everywhere else was quite liquid. There was no clot in the aorta nor in the coronary artery, except the little clot in this branch of the vessel, and this clot was of pale colour and firm consistence, and adhered to the vessel's wall; but the end of it, which projected into the main coronary artery, was dark in colour and of recent date.

In the interpretation of these facts the first question is whether the clot was embolic, or whether it arose in the place where it was found. I think there can be no doubt of the autochthonous origin of the clot, seeing that no source of embolism was discoverable, and that the clot was in a particularly narrowed, tortuous, and stony part of the vessel, conditions favouring the coagulation of the blood there. Further, it should be noticed that the thrombus occupied the part of the coronary system of vessels which is most prone to disease. Now it is beyond measure improbable that a solitary embolus would find its way to this special point, whilst this is the very point where a thrombus would take its rise. The locality is thus a practically decisive reason for believing that the coagulation occurred in the affected branch of the coronary vessel, and as negative ground for the same conclusion no source of embolus could be found; the valves and the lungs were quite healthy. The age of the thrombus would correspond to about three weeks, so far as my experience enabled me to judge; and this was the period that had elapsed since the anæsthesia by ether had been undergone. It is therefore obvious that the clot formed about and probably at the time of the ether administration, three weeks before death. This being admitted, it will be seen that the heart showed itself able to maintain the circulation in a manner very satisfactory whilst it lasted; so that its possessor was noticed to be robust, cheerful, and active at a time when a clot of more than two weeks' date had closed a very considerable branch of the arterial supply of the left ventricle. The state of the muscle of this part of the ventricle was carefully examined, and I was not able to see any marked difference between the muscle fibre of the part whose artery was obstructed and the rest of the fibre of the ventricle. There were here and there a few fibrils with traces of granular change, and there was some brown pigment about the nuclei of some of the fibrils. The formation of the thrombus was probably by extension from a small beginning, or more degeneration must have occurred in the muscle. It must be concluded that anastomotic twigs carried on sufficient circulation till shortly before death.

The effect of experimental occlusion of a large branch of coronary artery upon the heart of a mammal has been stated by several observers.[1] The facts observed have varied somewhat with the kind of animal experimented on. The heart of a dog thus treated was found to continue its action for a short time quite efficiently, so that the arterial pressure was fully sustained until the rhythm of the contractions was suddenly lost and the heart stopped at once, the last beats of the auricles distending the ventricles, whilst these became utterly insensitive to any kind of stimulation, and death took place with the heart in diastole. But in order to make such an experiment the heart has of course to be exposed and maltreated; and under these circumstances it is apt, independently of interference with the coronary arteries, to go wrong in the manner described. Cohnheim's account of the behaviour of the heart corresponds with what is known as "delirium cordis." My friend and colleague, Dr. Wooldridge, who speaks on this matter with the authority of large experience, writes to me as follows:—"I have often seen a gradual failure of the heart from long maltreating. I have never seen it stop suddenly, except as the result of the development of delirium of the heart, so that the fibres or groups of fibres in the ventricle work away at a great rate in their own time, but not in harmony with one another, so that a very wriggling condition is set up. Meantime the auricles go on beating and the ventricles become very distended. Delirium of the heart may arise from faradaic excitation of the heart (localised faradisation), and also by mechanical injury, sticking in needles, &c. I have also seen it arise from strong constant current, and it arises with peculiar readiness in dogs poisoned by chloral. I have seen it occur *spontaneously* in an exposed heart."

[1] Von Bezold: Med. Centralb., 1867. Samuelsohn: Zeitschr. f. Klin. Med. Cohnheim: Allg. Pathol.; i., 34.

The suddenness of death and the great distension of the left ventricle in the present case correspond exactly with the description of Cohnheim and others of the mode of death witnessed in experimental closure of a large branch of the coronary artery; and a large branch of the coronary artery was, in fact, closed in the case narrated. The experiments enable us to follow what took place. Death in these cases appears to be due to delirium cordis, and the facts observed in Mr. Gowlland's patient render it probable that delirium of the heart may be set up without exposure or maltreatment if a large branch of the coronary artery be stopped. The small dark recent portion of the clot which extended from the old clot of the branch into the parent vessel would serve to suddenly starve a much larger area of ventricular muscle, and so imitate exactly Cohnheim's experiment, save only that the obstruction was not complicated by operative maltreatment of the heart. I think the case must be added to the list of deaths through inhalation of ether.

SECONDARY INFLAMMATION OF THE PAROTID.

BY STEPHEN PAGET, F.R.C.S.

PAROTITIS, not due to mumps, may be due to local injury, or may occur during one of the acute fevers, usually typhus. It also occurs in pyæmia; and of this true pyæmic parotitis I have collected many cases. But the following cases make up a fourth group; a few of them, but only a few, are cases of pyæmia. In all, the primary lesion was in the abdomen or pelvis. In nearly all, the parotitis was the only secondary lesion. Most of the patients recovered; and in many cases the absence of all signs of pyæmia or septicæmia was especially noted. It is probable therefore: (1) That the parotid is related to the peritoneum; (2) that it is also related to the generative organs; (3) that an abdominal or pelvic lesion may be followed by parotitis without pyæmia; and (4) that such a parotitis, if it occurs late, in a patient not exhausted by the primary trouble, and with healthy kidneys, is usually followed by recovery. This relation of the parotid to the abdomen and pelvis was called by old writers a "sympathy." It is probably very complex; it may include the minute structure and chemical and vital changes of the parts concerned; their vascular, lymphatic, and nervous connexions; their liability to diseases; their inherited and embryonic tendencies.

But even if all the following cases were cases of pyæmia, which they are not, we should still have to ask why pyæmia starting in the genito-urinary system is more often the cause of parotitis than pyæmia starting in the limbs. This question has made me examine the relation, in pyæmia, between the site of the primary lesion and the distribution of the secondary abscesses; I hope soon to publish some statistics on this point; certainly the distribution is not a matter of chance. Thus disease seems to be able to demonstrate relations between organs which in health appear independent. My best thanks are due to those gentlemen who have kindly told me of cases.

CASE 1. *Use of the catheter; parotitis; death.*—A gentleman aged eighty, with enlarged prostate and residual urine, had used a catheter twice a day for two months; then he insisted on its being passed more frequently. A week later his bladder became irritable; then came a rigor and acute right parotitis. Death in forty-eight hours. No pus was observed in the urine.—(THE LANCET, February, 1886.)

CASE 2. *Use of the sound; parotitis; death.*—A gentleman aged eighty-five, with slightly enlarged prostate and irritable bladder, who had often used a catheter, was sounded, easily and without much pain. Next day there were violent rigors and right parotitis, which ended in suppuration. Death in fourteen days from exhaustion.—(THE LANCET, January, 1886.)

CASE 3. *Use of the catheter; parotitis; recovery.*—A gentleman aged eighty-two had used a catheter, and a false passage had been made. He then had retention; relieved with a catheter properly passed. This was followed by swelling of one parotid. It did not suppurate, and he recovered.—(MS. case.)

CASE 4. *Use of the catheter; cystitis; parotitis; death.*—A gentleman aged eighty-four, with irritable bladder and

much residual urine, began the daily use of a catheter on Sept. 8th. Two days later he was feverish, passing bloody urine. On the 27th he was thought to be dying; but on this day the right parotid became swollen, and with this his condition improved. The gland suppurated, was incised, and began to heal; but he afterwards sank steadily, and died on Oct. 14th.—(MS. case.)

CASE 5. *Cystitis; parotitis; recovery.*—A lady over seventy-five, with chronic cystitis and leakage of urine, was laid up after a fall. This made her cystitis worse, and three or four weeks after the accident she had swelling of one parotid, with dusky redness of skin over it. Slow suppuration followed, revealing a sloughing mass almost as large as a walnut; this by degrees became detached and was cast off. Two months after the accident all was healed, and she is still alive and active.—(MS. case.)

CASE 6. *Peritonitis (?) after delivery; parotitis; recovery.* A primipara, aged twenty-eight, suffered from tenderness of the abdomen on the day after delivery, and this was followed by "septicæmia." The perineum had been slightly torn. On the nineteenth day she had inflammation of the right parotid, with rapid swelling of the face and neck, "so that tracheotomy seemed inevitable." In six days the parotitis was nearly gone. A week later it returned, but only for two days. Rapid recovery.—(*Amer. Gynæc. Trans.*, iv., 125.)

CASE 7. *Induced abortion; parotitis.*—C——, aged forty-one; six children. Pregnancy at third month. Salivation great. Abortion induced for pernicious vomiting. Five days later acute left parotitis; no womb-symptoms, but slight fever and sour-smelling discharge.—(Dr. J. M. Duncan. M.S. case.)

CASE 8. *Peritonitis after delivery; parotitis; recovery.*—A young woman, with severe peritonitis after delivery, was treated with mercury internally and externally. The peritonitis improved, but mercurial stomatitis came on with right parotitis. This was resolved; then came left parotitis. Early incision, without waiting for fluctuation; gland infiltrated with pus. Rapid relief.—(*Gazette Hebdom.*, 1868.)

CASE 9. *Retarded convalescence after delivery; parotitis.*—A lady was confined of her second child on Jan. 25th. Labour natural; but uterine pains continued, giving her no rest, and her temperature kept about 101°.—27th: She has passed a large clot; the uterus is large and somewhat tender; syringed out with carbolic (1 in 40). In the evening very cold, with teeth chattering.—28th: Temperature 103°; pulse 140; tongue very dry.—29th: Better; uterus much smaller.—30th: Uterus larger again; syringed out. Much flatus in intestines. There was never at any time any offensive vaginal discharge.—31st: Much flatus; tongue as hard and dry as ever; temperature 103°.—Feb. 2nd: Urine normal; temperature 100°.—3rd: Complains of pain at right angle of jaw.—4th: Right parotid greatly enlarged; she cannot open her mouth.—5th: Much less swollen. Tongue still very dry.—7th: Swelling gone; temperature and pulse normal. There were never any offensive lochia or any signs of peritonitis. There was a drain wrong in the house, or said to be wrong, and a lady previously living there had been ill after her confinement there. (Dr. Godson. MS. case.)

CASE 10. *Pyæmia after delivery; parotitis; death.*—A primipara, aged twenty-nine; delivery with forceps; extraction difficult; ruptured perineum. On the third day peritonitis with fever and vomiting, followed by jaundice, pains in the chest, and dyspnœa, with rapid loss of strength. The uterus was kept irrigated. Shortly before death swelling of the left parotid. Death on the ninth day. Post-mortem: Laceration of vagina; endometritis; abscesses in broad ligament; diffuse suppurative peritonitis; spleen swollen; chronic interstitial nephritis; fresh adhesive pleurisy; infarcts in right lung; pulmonary œdema.—(*Amer. Jour. Obstet.*, 1884.)

CASE 11. *Delivery; puerperal mania; parotitis.*—A multipara, aged twenty-eight. March 7th: Natural labour.—19th: Left parotitis.—20th: Maniacal.—28th: Parotitis going down; temperature normal. Case still under treatment.—(Mr. Brockatt: St. Thomas's Hospital.)

CASE 12. *Pyæmia after delivery; parotitis; death.*—A multipara, aged thirty-six. Delivery by section of the child; it was an arm presentation, with firm retraction of the uterus. Temperature the same day 105°. Next day, temperature 105·5°; pulse 140. She had repeated shiverings, and continued to get weaker.—Ninth day: Moved into St. Bartholomew's. Very weak; face sallow; abdomen tender; sordes on lips.—Tenth day: Rigor; temperature 102·8°.—Twelfth day: A tender swelling in the right maxillary region; skin over it glazed. Tongue dry; no offensive discharge.—Thirteenth day: Swelling of face extending; she cannot open her mouth.—Fourteenth day: Better; swelling less. A roseolous rash, papular on the extremities, but nearly a uniform blush over the right breast. Urine half albumen; contains blood and casts.—Fifteenth day: Bowels loose; rash all over body, large magenta papules, and irregular blotches.—Sixteenth day: Very noisy last night; a spreading bedsore has appeared. No pain. Sick once. Urine loaded with albumen; blood and casts.—Seventeenth day: Rash more brown. Vomit is thought to contain pus from the parotid swelling.—Eighteenth day: Restless, with perpetual vomiting. Parotid swelling very red and brawny. Two days later death occurred. Just before this the parotid swelling discharged freely into the mouth.—(Dr. Duncan: Martha Ward Books, vol. v., Case 54.)

CASE 13. *Traumatic peritonitis; no signs of pyæmia; parotitis; recovery.*—A young man fell off a bicycle, and a dray-wheel passed over his abdomen. Collapse; acute peritonitis. This was gradually clearing up when he became worse, with high temperature, slight delirium, and double parotitis. The swelling rapidly became very great; the skin was very red. Under belladonna lotion the swelling began to go down in thirty-six hours, and in a few days had disappeared. There were no other bad symptoms.—(Mr. A. Scott: Brighton Med. Chir. Soc., 1883.)

CASE 14. *Peritonitis; no signs of pyæmia; parotitis; recovery.*—A boy, aged twelve, was admitted into Guy's Hospital with acute general peritonitis, probably from abscess round the cæcum. After some days he had high temperature, delirium, and double parotitis. Both glands swelled rapidly, both suppurated, and were incised, with evacuation of pus. There were never any symptoms of pyæmia or septicæmia.—(*Ibid.*)

CASE 15. *Peritonitis from perforation; parotitis; death.*—A man, aged twenty-four, was admitted into the Middlesex Hospital on Jan. 4th, with acute peritonitis of a week's duration. He had a similar attack three years ago.—8th: Sudden pain in both parotid regions. Next day both glands were swollen and tender, and he could not open his mouth.—10th: Profuse sweating. Urine acid, no albumen.—14th: Left parotid swelling is discharging into the ear. Two drachms of pus let out by incision. Restless and delirious at night.—16th: Temperature 101·2°; pulse 128; respiration 44. Tongue dry and glazed. He looks wasted and apathetic. A purpuric eruption has appeared above the umbilicus, over the præcordia, and over the right breast. As there was some discharge from the right ear the right parotid was incised. No pus. Sweating; delirium; rapid rise of temperature to 104·8°; death.—*Necropsy:* Peritoneal abscesses, some of great size; signs of old peritonitis. The appendix opened by ulceration into a pelvic abscess.—(Dr. Finlay: Clin. Soc. Trans., 1885.)

CASE 16. *Peritonitis; parotitis; pyelo-nephritis; death.*—This is a post-mortem record of a case where parotid abscess was found conjoined with pyo-salpinx, suppuration in Douglas's pouch and around the rectum, acute pyelo-nephritis, with chronic interstitial nephritis, amyloid disease of liver and spleen, and pneumonia. The probable sequence of events is thus given: Rupture of the perineum; prolapse of the uterus; endometritis; pyo-salpinx with adhesions; escape of pus into subperitoneal tissue, followed by amyloid disease and septicæmia.—(Dr. Kingston Fowler: Med. Soc. Trans., vol. vii.)

CASE 17. *Bullet wound of lumbar spine; parotitis; pyæmia; death.*—President Garfield, shot on July 2nd, 1881. In August gastric irritation and vomiting set in. On the 17th the right parotid began to enlarge, and on the 24th it was incised; only a few drops of pus escaped. Later, it opened into the mouth and ear, and more incisions were made. In September, during intense heat, he had broncho-pneumonia, with great somnolency; then rigors, delirium, and prostration. Sudden death on the 19th.—*Post-mortem:* The bullet had broken the right eleventh rib, perforated the first lumbar vertebra, and become encysted behind the peritoneum, below the pancreas. Death from hæmorrhage from an ulcerated mesenteric artery. Very large abscess between liver and transverse colon. Signs of double bronchitis and broncho-pneumonia. One small abscess in left kidney. Parotid suppuration nearly healed.

CASE 18. *Malignant disease of lumbar spine: parotitis.*—A man, aged sixty, in the spring of 1885 was attacked by pain in the loins and lower extremities; it was constant,

with frequent exacerbations. He passed from under observation till his death on Oct. 8th, 1885. Post mortem, there was found a malignant tumour of the lumbar and sacral vertebræ, with secondary deposits, in liver, lungs, and bronchial glands. The kidneys were in the state called "surgical." There was an abscess in the subperitoneal tissue above the symphysis pubis and another in the substance of the right parotid.—(Mr. J. F. Macready. MS. case.)

CASE 19. *Peritonitis; abdominal section; parotitis; recovery.*—A man, aged twenty, fell ill with loss of appetite and severe abdominal pain, followed by vomiting and absolute constipation. Abdominal section revealed general peritonitis and a fetid abscess round the cæcum. The peritoneum was washed out, and the abscess was drained. Slight albuminuria a day or two later, followed by right parotitis. No suppuration; recovery.—(Dr. Barlow and Mr. Godlee: *Med. Times and Gazette*, Dec. 1885.)

CASE 20. *Peritonitis from perforation; parotitis; death.*—A man, aged twenty-six, had three weeks' paroxysmal abdominal pain, followed by jaundice about the eyes and vomiting. Exploration of right femoral hernial sac; gas and thin yellow fluid escaped. Sac stitched to skin and drained. His general condition now improved.—Fourth day after operation: A tender spot behind left angle of jaw.—Fifth day: Not so well; fever, loss of sleep, abdominal pain. Considerable swelling at both angles.—Sixth day: Death.—*Post-mortem:* Diffuse peritonitis; much pus in pelvis; a collection of bile-stained fluid near the duodenum, and a perforating ulcer of the anterior surface of the first part of it.—(Mr. Godlee: *Med. Times and Gazette*, May, 1885.)

CASE 21. *Gastric ulcer (?); parotitis; recovery.*—A lady, aged thirty-six, of feeble constitution, suffering from vaginitis, inflamed piles, and two small bedsores, suddenly showed symptoms of acute gastric ulcer; opium and nutrient enemata gave relief, but she was left in great mental and bodily weakness. Two or three weeks later the left parotid became inflamed and suppurated; a large abscess formed, and was opened in two places. This was followed by considerable left facial paralysis. She has never quite recovered her health of mind and body. The paralysis is less.—(Mr. C. T. Oldham. MS. case.)

CASE 22. *Gastrotomy; no signs of pyæmia; parotitis; recovery.*—A girl, aged seventeen, had in her stomach a matted mass of swallowed hairs, 2 lb. in weight. Mr. Thornton removed it by a transverse 5 in. incision through the stomach, and closed the wound with silk. There were no symptoms from either the stomach or the peritoneum; but in a few days one parotid swelled. It felt boggy, and was incised; no pus. Next day the other swelled, but subsided under belladonna and glycerine on wool.—(Trans. Internat. Med. Congress, 1885.)

CASE 23. *Gastrostomy; no signs of pyæmia; parotitis.*—A woman, aged forty-one, had for six months suffered from difficulty of swallowing. On Dec. 12th, 1884, the abdomen was opened, and the stomach was secured to the abdominal wall. — 20th: Stomach opened. — 22nd: Swelling in region of parotid. — 26th: Incised; about half an ounce of pus escaped. — Jan. 16th: Parotid wound healed. — Feb. 19th: Died of exhaustion.—No signs of general pyæmia.—(Mr. W. Bruce Clarke. MS. case.)

CASE 24. *Enterostomy; no signs of pyæmia; parotitis.*—A girl aged fourteen, after a fortnight's bad health, had fever, constipation, and vomiting. Urine 1030; no albumen or sugar. The vomiting became dark, then fæcal.—Feb. 7th: Abdominal section by Mr. Langton; enterostomy.—9th: Vomiting ceased; much relieved.—16th: Temperature has never risen above normal; she has slept and taken food well; has vomited once or twice; fæces have passed freely by the artificial anus. To-day a slight swelling of right parotid region.—18th: Goes on very well; temperature normal; parotid swelling rather larger. — 22nd: Urine normal. The parotid swelling has disappeared. General health good.—(Dr. Duckworth. Elizabeth Ward Books, St. Bartholomew's Hosp., 1886.)

CASE 25. *Abdominal obstruction; parotitis.*—This case is mentioned in Fagge's Principles of Medicine (i., 300). The obstruction was due to cancer of the sigmoid flexure.

CASE 26. *Cancer of sigmoid flexure; abdominal section; colotomy; parotitis.*—Emma T——, aged sixty; intestinal obstruction.—Jan. 4th: Abdominal section; puncture of cæcum; no peritonitis.—Jan. 7th: Obstruction still unrelieved; colotomy. Jan. 13th: right parotitis, which subsided in eight days. Death from the local disease.—(Mr. A. E. Barker: Univ. Coll. Hosp.)

CASE 27. *Herniotomy; parotitis; recovery.*—A man aged forty had a left inguinal hernia, strangulated twenty-four hours. Strangulation at both rings. Operation tedious; large piece of sac removed. Peritonitis followed, and he nearly died. On the third day after operation the left parotid swelled very suddenly. It subsided as suddenly, and in three days there was scarcely a sign of it. He recovered steadily. Something was being done to the drains at the time, but no bad smell was perceived.—(Mr. E. S. Dashwood. MS. case.)

CASE 28. *Removal of omentum; parotitis; pyæmia; death.*—A man had an omental tumour removed from a hernial sac. The operation was followed by pyæmia, of which the parotitis was a result. The case was in St. Bartholomew's Hospital some years ago, but the notes are incomplete.

CASE 29. *Acute jaundice; pyæmia (?); suppuration at angle of jaw; recovery.*—A man aged twenty-two, who had "some time previously" had gonorrhœa, with sore-throat, complained on March 7th of languor, headache, and weakness in legs.—11th: Vomiting; constipation; abdomen distended and painful; urine scanty, coffee-coloured, and albuminous.—13th: Marked jaundice, mental oppression, and pains in limbs. The thigh seemed swollen.—15th: The bowels well opened; urine scanty, but not albuminous. 18th: Vomiting ceased; less oppression; and pulse and tongue improved. — 20th: Continued improvement; less jaundiced. — 21st: Rash on the skin like urticaria. — 27th: Two or three days ago erysipelas of the right side of the face and neck came on, and suppuration occurred at the angle of the jaw; the abscess was opened.—30th: The erysipelas is disappearing, and he is recovering steadily.—(Dr. Habershon: Guy's Hosp. Rep., 1861.)

CASE 30. *Ovariotomy; parotitis; recovery.*—A multipara, aged thirty-two. Swelling of abdomen noticed since the last child. Punctured, and cystic fluid drawn off; feverish for some days.—Feb. 19th: Ovariotomy; evident peritonitis; the abdomen washed out with carbolic (1 in 100). She bore the operation well. No fever followed it. Four days later left parotitis occurred, with rise of temperature; a week later, right parotitis. Then the left parotid broke, and was freely incised. The right parotid also suppurated, and was incised. The temperature was highest early in the course of the parotitis, then it gradually sank.—(Professor Möricke: *Zeitschr. f. Gebürtshilfe und Gyn.*, v. 348.)

CASE 31. *Ovariotomy; parotitis; perimetritis; death.*—A multipara, aged forty-eight. Swelling of abdomen noticed five years. June 29th, ovariotomy; many adhesions. There was some fever next day, but it was gone by the sixth day. Then came a rise of temperature, with left parotitis. Five days later this was incised; a considerable quantity of pus was let out. The fever abated, but a week later there came fresh fever, with perimetritis; diarrhœa; bedsore; death on thirty-fifth day.—(*Ibid.*)

CASE 32. *Ovariotomy in an old patient; parotitis; death.*—A multipara, aged sixty-five; swelling of abdomen noticed three months. She is very feeble and wasted. Nov. 6th, ovariotomy; a large cyst with colloid contents, which had to be scooped out. No fever after the operation. Six days after it came slight rise of temperature, with swelling of right submaxillary and sublingual glands, followed by swelling of the parotid. Pus was seen issuing from Wharton's duct. Three days later the parotid was incised and pus let out. Fever; quick weak pulse. Swelling extended over neck. Death the same day. Operation wound healed by linear scar.—(*Ibid.*)

CASE 33. *Ovariotomy; parotitis; recovery.*—A strong, full-blooded woman, Frau S——. Swelling noticed two years. Much œdema of lower limbs. Oct. 20th, ovariotomy; strong adhesions, broad pedicle. No fever after the operation. Six or seven days later came painful swelling of right parotid. It all disappeared in six days.—(*Ibid.*)

CASE 34. *Ovariotomy; parotitis; abortion.*—A multipara, aged thirty-four; last child six years ago. Jan. 30th: Ovariotomy; two ovarian tumours were removed. Some rise of temperature for the first two days; she was then quite free from fever till the seventh day. Then came right parotitis, with some fever, and extension of inflammation over neck and face. This subsided, with a little subcutaneous abscess. Abortion followed. She is still under treatment.—(*Ibid.*)

Möricke's remarks on the last five cases are as follows. The patients had not been exposed to mumps, except in Case 30, and this was doubtful. Nor were their histories or their ages consistent with mumps. Their homes were

healthy. They did not infect each other. The parotitis was not due to pyæmia, for in all the cases there was a fever-free interval between the operation and the parotitis, and only one patient died with any symptoms like those of pyæmia. He has never seen parotitis after any other operation on the generative organs. In the interval between the primary lesion and itself, and in its rate of frequency after ovariotomy (1 in 50), this parotitis is very like the orchitis of mumps (1 in 60).

CASE 35. *Pelvic cellulitis; parotis; recovery.*—A primipara: aged twenty-two. On eighth day with pelvic cellulitis, double parotitis, which lasted only a week.—(Dr. T. Williams: Univ. Coll. Hosp.)

CASE 36. *Ovariotomy; parotitis: pus in left ovary; pyæmia; death.*—Miss E. W——, aged forty-nine. Strumous diathesis. First symptoms three years ago. June 18th: Ovariotomy; peritoneum darkly stained, containing a pint of very dark fluid. Appendices epiploicæ and intestines stained and injected, especially those near pelvis. Tumour broken up and removed (11 lb.). No grounds for anxiety during first week. She remained well till the eleventh day, taking solid food. All sutures removed.—28th: Slight swelling and stiffness in left parotid region.—30th: Parotid swelling more diffused.—July 2nd: Swelling very hard, with a red blush over it. Temperature 103°.—4th: Swelling hard and livid; no fluctuation. Furred tongue, thirst, and anorexia. Temperature 102·6°.—5th: Thin pus began to escape from the ear.—6th: Semi-comatose, with tremors of tongue and arms. Temperature 102° and 103·8°. Two small abscesses below lobe of ear incised.—7th: Temperature 105·4°. Death. —*Post-mortem:* Operation wound healed. Hæmorrhagic infarcts in lungs. Purulent pericarditis. Numerous abscesses of both kidneys. Left ovary cystic, filled with thick fetid purulent matter. Fetid pus escaped on pressure below lobe of ear; angle of jaw was denuded of periosteum. —(Dr. Bantock: *Med. Times and Gaz.*, Nov. 1878.)

I have ventured to add the foregoing case to the others, and to regard the parotitis as secondary to the suppuration in the left ovary or in the kidneys. Dr. Bantock speaks of it as due to primary otitis, and regards the suppuration in the left ovary as secondary.

CASE 37. *Pelvic abscess; parotitis.*—Catherine C——, aged fifty-four. Recurrent cancer of uterus; pain over pubes; no general peritonitis.—June 24th: Left parotitis.—July 3rd: Pus three ounces, let out.—15th: Peritonitis.—17th: Death. *Post-mortem:* Pelvic abscess; no general peritonitis; no signs of pyæmia.—(Dr. T. Williams: Univ. Coll. Hosp.)

CASE 38. *Ovariotomy; septic state already present; parotitis; death.*—The patient was bedridden and greatly wasted. Had been tapped twice, last time six weeks ago; grave septic symptoms had set in; "the operation was altogether a forlorn hope." Universal adhesions; death seemed imminent during and after the operation. Next day she had rallied, and for seven days she did fairly well, and the tube was removed. On the ninth day there were a slight rise in temperature and left parotitis. In three or four days the gland broke into the ear, and was also freely incised. "She had all the tokens of a mild septicæmia, from which she gave promise to get well: but her relatives were strict homœopaths, and objected to my medicine. So they took her home, where she died on the thirty-second day from vomiting, as I afterwards learned."—(Dr. Goodell, of Philadelphia.)

CASE 39. *Ovarian tumour; removal; parotitis; recovery.*—Miss ——, aged twenty-seven; ascites for two years and a half; tapped fourteen times. A hard swelling to be felt floating in the abdominal cavity.—April 18th: Operation; removal of a hard nodular papillomatous tumour of right ovary.—21st: Swelling of both parotids; barely any rise of temperature; rapid recovery. The tumour had merely omental adhesions, and a long, slender, twisted pedicle. "The ascitic fluid was evidently secreted directly from the tumour, and did not come from pressure on abdominal veins or from irritation of the peritoneum."—(*Ibid.*)

CASE 40. *Oöphorectomy; parotitis; recovery.*—Mrs. ——, aged twenty-one, invalid for several years, bedridden for six months with constant pain. Left ovary enlarged and very painful; morphia habit.—Sept. 17th: Both ovaries removed; left hypertrophied and cystic.—21st: Painful swelling of right parotid; left parotitis a few days later. No marked rise of temperature; no quickening of pulse; not the slightest evidence of septicæmia. "Sympathetic, not symptomatic"; exactly like mumps, but slower to disappear.—(*Ibid.*)

CASE 41. *Operation for lacerated cervix; parotitis; recovery.* There was hæmorrhage almost immediately after the operation; the patient lost a great deal of blood, and was much weakened. Convalescence slow, but no trace of fever. In the second week parotitis came on, first of one side then of the other. The submaxillary glands also became tender and swollen. The glands slowly subsided; she then for some time had hysterical trismus.—(*Ibid.*)

Dr. Goodell has very kindly sent me his account of the last four cases. It will soon be published in the *American Journal of Obstetrics*. Case 39 is already reported there, vol. xvi., p. 744. He also refers to *Annales de Gynæcologie*, Aug. 1885, and to the two cases of Dr. Macdonald.

CASES 42 to 52.—These ten cases were mentioned in the discussion on Dr. Goodell's paper at the American Gynæcological Society last autumn. Dr. Sutton referred to a case in which one gland after the other began to swell during convalescence after ovariotomy, the patient dying during the third week. Dr. Johnson reported a case of swelling of both parotids after ovariotomy, which ended in death on the ninth day. Dr. Mann related three cases. One of these ended in death with septic symptoms; another recovered; both were ovariotomies. The third was a penetrating wound of the abdomen. It recovered. Dr. Emmett gave two cases: one after operation for lacerated cervix, with recovery; one after operation for a small vesico-vaginal fistula, with death. Dr. Baker gave a case after Tait's operation. The gland suppurated and death ensued. Dr. Reamy gave two cases: one after Tait's operation, with death; one after hysterectomy, with recovery.—(*Med. Times and Gaz.*, Dec. 26th, 1885.)

CASE 53. *Abdominal section; parotitis; recovery.*—Mrs. S——, aged fifty. Large retro-peritoneal tumour removed by abdominal section, together with left kidney, to which it adhered. Eleven days later, right parotitis, which was incised and drained. No signs of pyæmia.—(Mr. Hulke: Middlesex Hospital.)

CASES 54 and 55. *Ovariotomy; parotitis; recovery.*—Mrs. D——, aged fifty-two. Swelling noticed seven months. June 28th, ovariotomy. Adhesions in front, and to the omentum. Pedicle broad and thick. Left ovary healthy. Eight days later intense parotitis, lasting for about a fortnight. Recovery otherwise uninterrupted. "This is the second time I have met with parotitis after ovariotomy. In neither of these cases was there temperature or other symptoms to lend the least colour to the opinion that the parotid inflammation was septic. In neither case did the glands suppurate. The parotitis merely complicated the convalescence a little by the pain and slight fever it induced." Dr. Macdonald refers to a case of parotitis after ovariotomy for a burst cyst in the *Centralblatt für Gynäk.*, 47, 1884.—(*Edin. Med. Journ.*, May, 1885.)

CASE 56. *Incision of cervix uteri; parotitis.*—Dr. Matthews Duncan told me of this case, which occurred in the practice of Sir James Simpson. The inflammation was very severe, and of both glands. It subsided rapidly, without suppuration.

CASE 57. *Repeated parotitis with each pregnancy.*—Mrs. M——, aged forty-three, tall and thin. During six successive pregnancies she has had enlargement of the left parotid. "She has learned to recognise this as one of the first indications of her condition." It increases with the advance of gestation and disappears after delivery.—(Dr. Harkin: THE LANCET, Feb. 1886.)

CASE 58. *Use of a pessary; parotitis; recovery.*—A lady, aged sixty, had bearing-down pains; uterus rather low down. Hodge pessary introduced without much pain. On her way home, pain and faintness. Four days later, pain in the back, tremor, dry tongue, pulse 120, temperature 104·5°; left parotid region swollen and painful. Shivering fit the day before. The day after, less fever, less pain, less swelling. Next day, slight vaginal discharge; pessary therefore removed, though not causing any discomfort. She soon got well, and remained well, even after the re-insertion of it.—(Dr. Cribb: THE LANCET, Jan. 1886).

CASE 59. *Amenorrhœa; parotitis at menstrual periods.*—(Stéphanie, v. 23.) In May, parotitis. In June, parotitis. In July, swelling of the labia. In August, parotitis. In September, parotitis. In October, menstruation; no swelling of parotid or labia. In November, swelling of the labia. The parotitis was always on the left side.—(Prof. Peter: *Gaz. des Hôp.*, 1868, p. 146.)

With this case may be compared a passage in Dr. Goodell's paper: "I am now treating two ladies for nerve exhaustion. One has excessive salivation just before and during

menstruation; in the other, who has a congested and tender left ovary, the left parotid gland does not secrete during menstruation, and then the mouth and fauces on that side are dry and painful."

CASE 60.—Billroth, among his Zurich cases, had one of parotitis after a blow on the testicle.

STONE SACCULATED IN THE BLADDER OF A FEMALE.

BY CHAS. WILLIAMS, F.R.C.S. ED.,
SURGEON TO THE NORFOLK AND NORWICH HOSPITAL.

CASES in which a vesical calculus is impacted in a cyst situated in the walls of the bladder are so extremely rare, that I consider it a duty to record this very interesting example.

A fine and healthy girl, aged three years, living in Norwich, came under the care of the late Mr. George Hutchison in the year 1873, having for several months previously suffered from very decided symptoms of stone in the bladder. It had been noticed by her mother that from the time of her birth she had experienced a difficulty, as well as occasionally severe pain in passing urine, and that sometimes she voided blood mixed with it, and was in the habit of straining so violently as to produce prolapsus of the rectum.

On sounding the bladder, which was an unusually capacious one, it was with some difficulty that a calculus could be detected. At the wish of the parents Mr. Hutchison resolved to remove the stone by dilatation. Mr. W. H. Day assisted at the operation, and I was requested to administer chloroform. The urethra was freely and quickly dilated with Weiss's trivalve dilator. There was considerable trouble to find the stone, and when found a still greater trouble to seize it with the forceps (and it was particularly noticed that, although the patient was thoroughly under the influence of the anæsthetic, the getting hold of the stone with the forceps occasioned severe straining); the blades could not be made to grip the calculus; they continually slipped off, bringing away pieces of the stone. At last it became absolutely necessary to ascertain what occasioned the difficulty. For this purpose the urethra was still further dilated, and the neck of the bladder was also divided with a probe-pointed bistoury. The stone could now be felt with the point of the finger immovably fixed in the floor of the bladder on the patient's left. It appeared to be of the size of a pigeon's egg, and was enclosed in a sac, through the neck of which a small portion protruded into the vesical cavity, and it was off this nodule that the forceps so continuously slipped. Many efforts were made to dislodge it—first with a scoop, then with the finger, which could barely reach it, and next with the forceps; they all proved unsuccessful. Several portions were broken off the uncovered portion, but the main piece was left *in situ*, as it was considered undesirable to make any further attempt to remove it, the patient having been a long time under the influence of chloroform and apparently in a very exhausted condition.

The next day the child had voided very little urine. A catheter was introduced, and a small quantity of sanguineous urine flowed out. She was very drowsy, and had been so since the operation. When roused she took milk and brandy very freely, but immediately afterwards became drowsy again; she did not appear to have recovered from the influence of the chloroform. The next day she died. No post-mortem examination was permitted.

I am induced to believe this child died of chronic chloroform-poisoning, and not from the effects of the operation, which was by no means roughly performed, and there was very little blood lost. She never thoroughly revived, but became comatose, and died in that condition. It is difficult to imagine what could have given rise to the formation of the sac; there never was an obstruction to the escape of the urine, such as stricture or prostatic enlargement might engender, for neither existed. We are taught that a cyst is usually formed by the straining necessary to expel the urine; the mucous membrane is forced between the bands of muscular fibres, hypertrophied in consequence of the strain to which they are subjected. Nothing of the sort can apply in this case, and it is not easy to believe that the stone was the cause of the cyst, which it might have been had it been situated close to the neck of the bladder. When impacted in this situation, the very pressure to which a stone is subjected by the constant and long-continued action of the bladder to expel it causes the mucous membrane to ulcerate through, and the stone is in due time forced into a cavity, which enlarges as the stone grows, and in this way it may form a tumour in the vagina, as was the case reported by me in THE LANCET of Nov. 7th, 1885. An effort is then made by nature to contract the opening, which in this child was nearly accomplished; but the calculus was far from the neck of the bladder, and could barely be touched with the point of the finger, so that a different explanation of the formation of the cyst is required; and as no examination was allowed to be made, it seems to me to be almost impossible to suggest in what way the sac was formed. Sabulous matter or a few urinary crystals may probably have been deposited originally in a mucous follicle, lacuna, or fossa, and gradually augmented in quantity, and in this way the sac enclosing the calculus may have been produced. The mother of the girl at four years of age suffered from stone, which was removed by the late Dr. Edward Lubbock; it was the size and shape of a walnut. She has suffered from incontinence since that time.

IMPERFORATE RECTUM TREATED SUCCESSFULLY BY LEFT INGUINAL COLOTOMY.

BY HUGH STOTT, M.R.C.S., L.S.A.L.

A CASE of imperforate rectum was recently brought under my care. The subject was a small but full-time infant four days old; it was an illegitimate child. The mother had noticed that the baby had not passed a motion since birth, and that it was constantly sick, the vomit being of a yellow colour, of a strong odour, and staining the clothes. The mother at the birth of the child was attended by a midwife. The rectum, on examination, disclosed a natural opening for the anus, and on passing a bougie made of soap up the canal it was arrested at the second inch; by carefully inserting the little finger no bulging of bowel or any indication of such could be made out. I therefore resolved, instead of dissecting up and seeking the end of the bowel, to perform left inguinal colotomy or Littré's operation. For this purpose I gave chloroform, and made an incision above Poupart's ligament in the left groin, about two inches in length, in a curved direction upwards towards the anterior superior spine of the ilium. Upon opening the peritoneum a quantity of yellow-coloured fluid exuded, and the large bowel bulged forwards; this was pushed upwards until the lowest part was reached. It had no free end, but was attached. The bowel was stitched on either side of the edges of the wound and then opened between the stitches. Some meconium escaped; there was little or no bleeding. The wound was dressed with strips of lint saturated with carbolised oil (1 in 100), a loose pad of cotton-wool, and then a bandage. The child recovered from the chloroform and was not sick; it was put to bed with its mother, and took from the bottle cow's milk and water. The stitches, which were silk, were removed on the third day, and the wound healed kindly, without any sign of suppuration, which is to be wondered at considering the wretched and dirty state of the surroundings. The child is now three months old, and is thriving; the wound has perfectly healed, and looks clean and healthy; at present there is no prolapse of bowel. The operation was done by myself without assistance, except that an old woman looked on. This will show the simplicity of the operation.

Perhaps the question may be raised, Was it right to endeavour to prolong this child's life? It has been said in such cases, "Let the child die," but I strongly agree with Mr. T. Holmes, who says, in reference to these cases, "A surgeon who would not operate in a case of this kind would, I think, neglect one of the plainest duties of his profession." Is a surgeon to arrogate the power as to whether a person shall live or die? As to the choice of operations, I selected Littré's: first, because it is easier to do without assistance; and, secondly, because contractions following a dissection upwards in the course of the rectum are so liable to take place, leaving the patient probably in a worse state than he was before. It may be I shall later on endeavour to establish a natural discharge for the fæcal matter at the anus.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum peoprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

SARCOMA OF BLADDER; CYSTOTOMY; SUPRA-PUBIC PUNCTURE.

(Under the care of Mr. MORRANT BAKER.)

IN the case which is here recorded operative surgery could afford only palliation. It is an example, however, of how much relief may be given in certain cases of malignant disease of the bladder, even under circumstances the most unfavourable. The total duration of life after the patient's first admission into the hospital was not much more than four months, but about half of this period was rendered free from acute pain and distress by the performance of the operation, and for some weeks the patient felt comparatively well. For the notes of the case we are indebted to Mr. Vogan, late house-surgeon.

J. S——, aged fifty-five, a harness-maker, was admitted to Darker ward on Sept. 11th, 1884. About six months ago he felt a smarting pain when micturating. Two weeks previously he had noticed blood in his urine and smarting pains at the tip of the penis both before and after micturition. He now has great pain about the loins, which shoots down the thighs, and frequent desire to micturate. No history of syphilis, gout, or rheumatism. Urine: sp. gr. 1026; alkaline; blood and albumen present, but no sugar. Examined per anum, the prostate was not noticeably enlarged, but felt a little firmer and more prominent on the left than on the right side, but the difference was not more than might be accidental. Examined by sound, no stone could be detected, but some hard substance was struck.

Sept. 23rd.—Pain in loins continues, also that referred to end of penis; there is also pain on defecation. He cannot hold his urine for more than two hours and a half, and has to strain to pass it.

26th.—Bladder washed out with syphon apparatus, which gave him some relief.

Oct. 6th.—There is not much blood in the urine, but on passing a catheter directly after micturition about two ounces of bloody fluid were drawn of. Pain referred to sacrum.

9th.—The urine on examination under the microscope was found to contain blood-corpuscles, pus-corpuscles, and bladder epithelium, but no portions of new growth were seen. He can only hold his water for an hour and a half at a time, and has more pain on passing it and on defecation.

11th.—The patient was taken into the operating theatre and anæsthetised, and Mr. Baker made a median incision in the perineum. On passing his finger into the bladder, a growth was felt about the size of a small Tangerine orange, having a large and firm base, though somewhat constricted. It was situated behind and slightly to the right of the prostate. Several pieces, each about the size of a filbert nut, were removed with Sir Henry Thompson's crushing forceps. The base was then felt to infiltrate the walls of the bladder, which were adherent to the surrounding tissues. Hæmorrhage was rather free during the operation and for about one hour afterwards.

12th.—Slept well and feels easy. The pain in the bladder is much less than before the operation. Temperature 100·4°.

25th.—Got up after tea yesterday. Rests at night much better than before the operation, and has no pain except during and for a short time after micturition. Very little blood in the urine, which nearly all passes through the penis.

Nov. 7th.—On examination per anum, a large swelling was felt in the region of the prostate; it was exceedingly tender. The patient has lately complained of pain in the hypogastric region.

11th.—Discharged from hospital. All the urine passes per urethram. Hardly any blood in the urine, but rather more pain has been complained of lately, both at the time of and after micturition and defecation. The patient has been greatly relieved by the operation.

29th.—Readmitted, suffering from recurrence of severe pain and other symptoms, as on the former occasion. At the present time there is just in the scar of the operation in the perineum a hard tumour the size of a horse-chesnut. The hypogastrium is tender, and a fulness in the region of the bladder is very distinct.

Dec. 12th.—The bladder has been washed out twice a day with warm boracic acid lotion, which gives him some relief. The temperature varies from below normal to 102·4°. The difficulty and pain in passing the catheter are increasing. The tumour in the perineum has rapidly increased in size during the last week, more especially anteriorly and in the direction of the left crus penis. It is also encroaching on the wall of the rectum. During the last few days a hard swelling has appeared on the right side of the penis about its centre. Passes urine every three-quarters of an hour.

13th.—The patient was anæsthetised, and after examination Mr. Baker decided not to perform any further operation for the removal of the growth, this having extended to the rectum and involved nearly the whole of the perineum.

19th.—The swelling on the right side of the penis has disappeared, but that in the perineum has partially broken down.

Jan. 1st, 1885.—This afternoon Mr. Baker made a suprapubic puncture into the bladder and introduced through the wound a soft red-rubber catheter. A long piece of india-rubber tubing was attached to the end of the catheter, so as to conduct the urine to a utensil under the bed and allow of continuous drainage.

2nd.—Patient very much relieved by the operation.

16th.—For some days the patient has requested that the catheter should be removed, saying that it gave him pain. It was removed to-day, and a pad of absorbent wool kept over the wound.

19th.—The patient has been gradually sinking, and died at 11 o'clock last night.

Necropsy.—There were two small sarcomatous nodules in the right pleura, and two similar nodules in the liver. The bladder was filled, except at its upper part, by a new growth that infiltrated its anterior and lateral walls as well as the fundus, and had a cauliflower-like form. By the backward extension of the tumour the rectum had become fixed and surrounded, and close to the anus the growth had sprouted into the gut, and by breaking down had established a recto-vesical fistula. The ureters were a little distended, and their orifices into the bladder partly occluded by the growth. The renal pelves and calyces were dilated. The left renal pelvis contained fetid pus.

ROYAL BERKSHIRE HOSPITAL.

A CASE OF SUBACUTE MYELITIS, WITH CALCULUS IMPACTED IN THE URETER; REMARKS.

(Under the care of Dr. H. FRENCH BANHAM.)

S. J——, aged thirty-eight, was admitted on Nov. 10th, 1885, and died Jan. 4th, 1886. On examination there was found to be complete loss of motor power in the legs, and all sensibility to touch or temperature was annulled. There was also absolute paralysis of bladder and rectum. The bladder was enormously distended, and formed a considerable tumour, so large as to arrest the attention on reaching the patient's bedside. The urine was withdrawn by the nurse, but the quantity was not measured. The knee reflexes were intact, but the plantar and hypogastric superficial reflexes were absent. Bedsores already existed over the upper part of the nates. Pain in the back, which seemed to have troubled the patient a great deal before admission, still existed, but was chiefly in the dorsal region. There was more or less complete anæsthesia over the abdomen as far as the umbilicus, and although she was troubled with the girdle sensation, there was not found here any hyperæsthetic zone. The patient was possessed of less than average intellect, and it was difficult to determine how much reliance could be placed upon her statements in regard to the previous history of her illness. It would seem, however, that an uncertain amount of pain in her back and legs had characterised the early part of her illness, and that the paraplegia with loss of control over the sphincters had been preceded by perverted sensations and numbness, if not by complete anæsthesia. The anæsthesia

over the abdomen was soon found to vary a good deal from day to day, and to be irregular in its distribution. Within a few days of admission she began to be troubled with severe muscular spasms, by which the legs were flexed upon the abdomen. The urine soon presented an alkaline reaction with abundance of ropy mucus—the usual indications, indeed, of a pronounced cystitis. Without going into particulars with regard to the treatment adopted, it may be said that all efforts, general and local, directed to the relief of the spinal trouble, the cystitis, and the bedsores, were unavailing, and a downward progression marked the course of the disease, and the patient died on Jan. 4th.

Remarks by Dr. BANHAM.—The circumstances were unfavourable to a complete and thorough post-mortem examination, and the spinal cord unhappily was not examined. It will, however, be conceded that paraplegia, with absolute anæsthesia, loss of control over the bladder and rectum, and bedsores over the sacrum, form a group of symptoms that, taken collectively, render the existence of myelitis not probable only, but certain; and it may be said that such a condition was present. In addition to the myelitis, there was an impacted calculus in the ureter, which above was distended and thinned, while the pelvis and kidney were in the morbid condition that constitutes what is known as "surgical kidney." We have, therefore, in this case the coincidence of two diseases of sufficient rarity to justify the suspicion of a causative relation existing between them. The calculus and the alterations that the kidney and ureter had undergone indicate clearly that disease in these parts had preceded the spinal symptoms, which, indeed, only came on within three months of the final issue. It seems probable that there was a subacute transverse myelitis, which, commencing in the lower part of the spinal cord, ascended and became converted into a meningo-myelitis, all secondary, and due to an impacted calculus in the ureter. From a comparison with other similar cases that have been recorded, and that have been the subject of careful examination, there can be no doubt that the spinal cord lesion in this case was consecutive to a neuritis which travelled upwards from the irritation in the kidney and ureter.

CASHEL UNION HOSPITAL.

LARYNGOTOMY; RECOVERY.

(Under the care of Dr. LAFFAN.)

THE following case of successful laryngotomy may prove interesting from the encouragement which it holds out to prompt action in like emergency. Dr. Laffan knows of cases where life has apparently been lost from want of operative measures in similar circumstances.

M. N——, farm labourer, aged fifty-three, was admitted at 4 P.M. on July 30th, 1885. He complained of sore-throat and had some slight difficulty of breathing. On examination signs of an ordinary attack of pharyngitis presented themselves. The uvula was more swollen than usual; but to this much significance was not attached. Therefore some routine treatment was ordered, and he was sent to one of the wards. An hour had scarcely elapsed when Dr. Laffan was hurriedly sent for, with the announcement that the patient was dying. In about ten minutes he was found suffering from such extreme dyspnœa as to promise speedy asphyxia. The imminence of his danger was explained to him, and his permission obtained for operation. The larynx was at once opened through the crico-thyroid membrane; there was scarcely any bleeding, and a dilating tube was easily inserted. At the moment of operation he fell back apparently dead, but the entrance of air into the chest, a subcutaneous injection of ether over the sternal region, and ammonia to the nostril quickly revived him. Notwithstanding that every possible precaution was taken, such as regulated temperature, hot steaming, &c., the patient was seized with pleuro-pneumonia of the right base twenty-four hours after the operation. Fourteen days after this he was attacked with pleuro-pneumonia of the left side, and it was not till after the lapse of five months that he recovered perfectly. He was detained in the hospital some time longer, as his family circumstances were poor, and Dr. Laffan was anxious to avoid exposing him to the hardship incidental to a damp house and scant living. The tube was maintained in for eight days only, and the wound healed a few days afterwards.

The pain which ushered in the inflammation of the right lung was situated so near where the ether was injected that it was thought not impossible that there might be some connexion between the two; and when the second lung was seized it followed immediately on the opening of a small abscess, which formed at the point of injection. Dr. Laffan would prefer to select the arm or leg for the seat of injection on another occasion.

STRANGULATED FEMORAL HERNIA; ASPIRATION, FOLLOWED BY TEMPORARY RELIEF; OPERATION; FÆCAL FISTULA; DEATH FROM PHTHISIS; REMARKS.

M. L——, a female, married, aged fifty, was admitted on July 30th, under the care of Dr. Laffan, with strangulated right femoral hernia. The history was that she had had a rupture for twelve months, and that this had doubled in size and become very painful about two days prior to her admission. Taxis had been tried by the previous surgeon, and was consequently now only slightly attempted. There was severe pain, but no great constitutional disturbance. She declined to allow a cutting operation, and Dr. Laffan then resolved to give tapping with the aspirator a trial. A small trocar and cannula were employed. Some fluid bowel contents came away; the bowel became readily flaccid, and slight pressure caused it to disappear altogether; this it did, however, without gurgle. Next day the tumour reappeared to the extent of half its former size. It was much softer, and some fluid matter exuded on pressure. On Aug. 1st she was attacked with severe pain in the part. On the 2nd she consented to be operated on. This was accordingly done about 6 P.M. A portion of the anterior wall of one of the coils, about the size of a florin, was found to be gangrenous, and in it there was a small opening, produced by the aspiration needle. Some of the adjacent portions of bowel presented marked signs of inflammation. Constant vomiting followed. This was checked after some hours by drop doses of aromatic ammonia. There was some abdominal swelling, with a pulse of 112 and a temperature of 99·8°. There was some local tenderness, but it scarcely amounted to pain, and no general peritonitis at any time set in. A fæcal fistula ultimately formed. The discharges from the fistula were frequent during the day, and as it was high up in the small intestine, these weakened her very much. An effort was made to compensate for these by injections into the distal end, but these would not be tolerated by the part. An attempt to close the fistula by pressure, and another to restore the continuity of the bowel for temporary digestive purposes by means of a flexible tube, likewise proved failures. Pancreatic enemata were administered per rectum, and these helped to sustain the system to a certain extent. Dr. Laffan was arranging for an attempted cure of the fistula with Dupuytren's enteretome, when the recrudescence of a chronic phthisis set in, and finally disposed of the patient on Sept. 16th.

Remarks by Dr. LAFFAN.—There are two points in this case worthy of note. The first is the unreliability of the treatment by the aspirator, since by the seeming return of the tumour which followed from it, it tended to mask the real state of things. Absence of gurgle in the case of an unemptied gut would be significant enough, but in that of an emptied one might mean nothing, and could not therefore afford the help which it would in the case of an untapped bowel. The second point is the hint afforded by the continued, though very small, discharge of intestinal contents. This in itself I shall in future regard as an almost certain sign of gangrene, as I know of no instance where structures not gangrenous have failed to close up after the use of a small trocar, No. 3 of the most improved form of aspirator.

ST. JOHN AMBULANCE ASSOCIATION.—The third annual meeting of the Gibraltar Centre was held on the 31st ult., at the new Assembly Rooms. The Governor, his Excellency General Sir John Adye, G.C.B., presided, and Lady Adye presented certificates and medallions, among the recipients of the latter being the Chief Justice, Sir H. J. Burford Hancock. Brigade Surgeon A. Clarke has reported to St. John's Gate an excellent case of first aid rendered by Gentleman Cadet H. E. Beddoes, now attending his lectures at the Royal Military College. A poor woman was knocked down by a train at Farnborough Station and had her foot and leg smashed. There was profuse arterial bleeding and much shock. No surgeon was available, but Mr. Beddoes applied temporary tourniquets and took such other measures as undoubtedly saved the woman's life.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Chemical Pathology of Respiration in Cholera.—Splenectomy.

AN ordinary meeting of this Society took place on Tuesday last, Mr. G. D. Pollock, F.R.C.S., President, in the Chair.

Mr. WILLIAM SEDGWICK read a paper on the Chemical Pathology of Respiration in Cholera. After some introductory remarks on cyanosis in relation to choleraic collapse, the author referred to the early observations of Dr. John Davy and Mr. Finlayson on the absolute reduction of carbonic acid in the air expired by cholera patients in Ceylon during the epidemic of 1819; and to those of M. Rayer on the absolute reduction of oxygen absorbed in the cases observed by him in Paris during the epidemic of 1832. Such observations proved simply that the pulmonary interchanges of gases was diminished; whilst those of M. Doyère, made during the epidemic of cholera in Paris in 1849 and 1854, demonstrated that the amount of oxygen absorbed, although absolutely diminished, was relatively much larger than the amount of carbonic acid eliminated, and was always above the standard proportion observed in the interchange of these gases during health. Attention was directed to the absence of any unsatisfied demand of the blood for oxygen; to the failure of the voice common to cholera, and to gastro-intestinal cases simulating cholera; and to the influence of the disease on the dyspnœa of phthisis. The contraction of the lungs observed after death during collapse resulted from absence of blood and of air, and was referable to diminished supply of carbonated blood during life. Percussion during collapse, as was first shown by Professor Griesinger, gave, in consequence, a small area of cardiac dulness. The relative excess of oxygen accounted for the integrity of the mental faculties, for the contracted state of the left ventricle after death, and for the emptiness of the brachial and other large arteries which has been observed during advanced periods of collapse. As carbonic acid was a lower compound than urea, the production of the former was greatly diminished, whilst that of the latter was stopped, during well-marked collapse. Owing to the reduced production of carbonic acid there was diminished animal heat during collapse, whilst the rise of temperature, which occurred before and also after death, was dependent on the accumulation of previously unconsumed oxygen.—Dr. B. O'CONNOR asked for a fuller explanation of the rise of temperature immediately preceding and following death. He did not gather whether the accumulated oxygen combined with carbon in the production of carbonic acid and the development of heat, or whether there was some other method by which heat was liberated.—Mr. SEDGWICK considered, in reply, that the accumulated oxygen combined with some combustible substances when the vital influence was removed. It was the first occasion on which the chemistry of collapse had ever been brought before the notice of any medical society in this country. During hibernation the oxygen absorbed was almost double the amount of carbonic acid eliminated, a condition which had some analogies with the chemical changes in collapse.

Mr. KNOWSLEY THORNTON read a paper on two cases of Splenectomy. This paper contained a detailed record of a case of splenectomy for cystic spleen in a girl of nineteen. The pedicle was ligatured with silk and the ligatures cut short. The operation was performed with full antiseptic precautions. The patient made a complete recovery and is now in much better health than before the operation. Another case of splenectomy for hypertrophy of the spleen was also related. In this case there was retraction of a small artery from the middle loop of the three ligatures, with hæmorrhage into the omentum and remarkable general oozing, and cyanotic condition of the patient, who apparently rallied from the operation, but died from internal hæmorrhage in five hours and a half. Tables of eleven successful and twenty-three unsuccessful splenectomies, with four successful partial splenectomies, were appended, with remarks on the causes of success and failure. All the cases in which leukæmia was present were fatal, and operations under these circumstances are, the author contends, unjustifiable. Credé had collected most of the cases in a paper in Von Langenbeck's *Archives*. Splenectomy for hypertrophy of the organ was not so favourable for operation as wandering spleen or cystic disease of the organ. In reply to the President, he said Mr. W. Haward's case had been included in the table; it happened in 1881, and was one of leukæmia. So far as he knew, the girl was now in a good state of health and menstruating normally; as a house and parlour-maid she was performing a fair amount of hard work. In one of the successful cases the woman bore a child after the operation. In another case the woman was in good health nine years after splenectomy.—Dr. A. MONEY said that, in animals, after removal of the spleen a fresh formation of splenic tissue was said to occur in the neighbourhood of the original spleen.—Mr. THORNTON said that the running powers and appetites of animals were increased after experimental splenectomy; it was interesting to observe that in his successful case the girl acquired an enormous appetite.—Mr. BRUCE CLARKE inquired if any reason could be assigned why cases of leukæmia should prove so unfavourable for operation.—Mr. G. D. POLLOCK had made a necropsy on a case some years ago in which the spleen was two feet in length and of enormous dimensions; death took place apparently from simple exhaustion.—Mr. K. THORNTON, in reply, considered that leukæmic patients would not bear any surgical operation well; the blood coagulated with great difficulty, and there was a proneness to hæmorrhage.—This last fact was illustrated by a case, narrated by the President, of a man who died two days after a large hæmorrhage into the legs.

CLINICAL SOCIETY OF LONDON.

Erythema Nodosum and Rheumatism.—Peculiar Cases of Pneumothorax.—Litholapaxy in a Boy of Ten.

AN ordinary meeting of this Society was held on the 9th inst., Mr. Bryant, F.R.C.S., President, in the chair.

Dr. STEPHEN MACKENZIE read a paper on Erythema Nodosum, especially dealing with its connexion with Rheumatism. The paper commenced with the narration of the case of a young woman who was admitted into the London Hospital with erythema nodosum. Whilst under treatment for this, symptoms of a moderately severe attack of acute rheumatism developed, with doubtful signs of heart affection. Two slight relapses of the rheumatic symptoms occurred. The discrepant statements of writers on the subject are well known, and the occurrence of this case led the author to collect data for forming an opinion as to the connexion between erythema nodosum and rheumatism. By the assistance of Drs. Hadden, Carrington, Arthur Davis, and James Anderson, particulars of 108 cases of erythema nodosum were collected from the records of St. Thomas's, Guy's, St. Bartholomew's, and the London Hospitals. Analysis of these cases gave the following facts:—There were eighteen males and ninety females, or five females to one male. The greatest incidence of the disease was found to occur in the second and third decennia, next in the fourth and first decennia, whilst few occurred in and after the fifth decennium. The age incidence is very similar to what occurs in rheumatism. In seventeen cases, or 15·7 per cent., there were present well-marked symptoms of acute or subacute rheumatism. In four of these cases the rheumatism was stated to have preceded the erythema, in two the erythema preceded the rheumatism, in two the erythema and rheumatism appeared concurrently, and in the remainder the sequence was not recorded. Besides these cases, there were seventeen others in which arthritic pains were present, apparently distinct from the pain in the limbs in which the eruption was present. In three of these there was a history of previous rheumatism, in four there was evidence of heart disease or disorder, besides sore-throat in the attack in two, and a family history of rheumatism in two. Though the evidence of the rheumatic nature of these last seventeen cases is not so strong as in the first seventeen, the author believed that they ought really to be included in the rheumatic category. If this were done it gave 17 + 17 = 34, or 31·4 per cent., with symptoms of rheumatism occurring with erythema nodosum. Further, in twelve cases in which no rheumatic symptoms accompanied the attack of erythema the patient had previously suffered from rheumatism. In six cases recurrences were noted. In one case the patient died in the sixth attack of acute rheumatism, and had erythema nodosum with three of the attacks. Sore-throat (including two cases

of tonsillitis), which so often precedes and accompanies acute rheumatism, was present in twelve cases—though not specially inquired for; and in eleven cases there was a family history of rheumatism. A matter of great importance in establishing the connexion between erythema nodosum and rheumatism is the condition of the heart. Some important evidence was given. In twenty cases some definite lesion was present; ten of these are included in the group of cases in which rheumatism accompanied the attack of erythema; but in ten others, and three doubtful lesions, there was no arthritis accompanying the attack, though in some there had been previous rheumatism. Most important of all was the fact that a heart lesion, presumably endocarditis (with in one case pericarditis), developed in five cases during the attack of erythema nodosum. In three of these there was accompanying affection of the joints, whilst in two the joints were not affected in the attack. The author submitted that these facts justified the following conclusions:—1. That erythema nodosum is frequently associated with definitely rheumatic symptoms—e.g., arthritis, sour sweats, sore-throat, &c. 2. That heart disease (endocarditis) may arise during an attack of erythema nodosum, both in cases in which arthritis is present and in cases in which there is no affection of the joints. 3. That these conclusions justify the inference that erythema nodosum is frequently, if not generally, an expression of rheumatism, even when no other definitely rheumatic symptoms are present.—Dr. S. WILKS alluded to the connexion of rheumatism with erythemata generally, remarking that the nomenclature had been materially altered of late years. With regard to some of the cases quoted by Dr. Mackenzie, there might be some doubt as to their being rheumatism. In blood-poisoning of many kinds, affection of joints and rashes were met with, and yet the cases were not rheumatism. He was sometimes in doubt which was the more important, the rash or the arthritis. The so-called purpura urticans was sometimes associated with slight joint affection, so that he had considerable doubt as to the nature of some of such cases; by the older observers the skin diseases might have been regarded as the essential elements, the joint pains and fever being looked upon as manifestations of the cutaneous lesion.—Dr. CARRINGTON spoke of the connexion between erythema nodosum and heart disease; the existence of systolic apical murmur was not certain evidence of endocarditis.—Dr. S. WEST said that the relative frequency of heart disease in acute rheumatism was about 50 per cent.; in erythema nodosum but a few per cent. He thought that cases of erythema nodosum were only occasionally coincident with acute rheumatism.—Dr. RADCLIFFE CROCKER discussed the nature of the connexion between the arthritic pains and the erythemata; a nervous or local mechanism might be suggested; the rash was frequent in the neighbourhood of painful joints. In a case of simple synovitis of one knee a single patch of erythema papulatum was also limited to the joint. This suggested a direct local connexion, the eruption being due to the joint changes rather than to some profound blood lesion. Whilst he regarded erythema nodosum as of rheumatic nature, it differed considerably clinically from the other forms of erythema so frequently seen in rheumatism.—Dr. MACLAGAN said that erythema nodosum was long ago regarded as a manifestation of the rheumatic diathesis. No doubt many things were called rheumatism, and errors were liable to creep in from the difficulty of diagnosis in some cases. That erythema nodosum was related to rheumatism was shown by the family and personal history of a case he had lately seen, in which the child had erythema, followed by chorea and heart disease, when his brother also became the subject of chorea.—Dr. HINGSTON FOX had met with cases of acute rheumatism and scarlatina in different members of one family; he thought there was a connexion between scarlatina, acute rheumatism, and erythema nodosum. Hebra regarded erythema nodosum as an inflammation of the lymphatic vessels.—Dr. B. O'CONNOR had found that the rheumatic symptoms had been of a very mild character in some cases of erythema nodosum.—Dr. LAYCOCK regarded rheumatism as of nervous origin.—Dr. A. MONEY said he had read Dr. Barlow's paper communicated to the Liverpool meeting of the British Medical Association, and agreed with its statements. He had never seen undoubted heart disease in immediate relation with erythema nodosum.—Dr. S. MACKENZIE said his conclusions had not been influenced by any previous bias on the subject. Dr. Wilks' criticism was a just one, but still none of the collected cases showed the slightest evidence of other disease than rheumatism, and the cases had occurred in the practice of different physicians at large hospitals. The redness and tenderness sometimes preceded the occurrence of erythema nodosum, and, although the eruption did occur in the vicinity of joints, yet he had seen the eruption not in their immediate neighbourhood, so that he could not accept Dr. Crocker's suggestion of local causation. He agreed that the relative frequency of heart disease and acute rheumatism was as Dr. West had stated. He considered that he laboured under some disadvantage in having to read in abstract the evidence which he had brought forward, but he fully believed that further investigation would support the conclusions at which he had been forced to arrive by the statistics collected by independent workers.

Dr. SAMUEL WEST read notes of three cases of Pneumothorax. The first case was one of sero-purulent effusion, which was tapped twice, the patient being in perfect health three years after the attack. The second case died from suffocation due to discharge of the viscid contents of a large cavity into the bronchial tubes. In the third case death occurred from hæmorrhage due to an aneurysm. In the first case sudden dyspnœa occurred whilst in bed three months before the patient was seen. There was no cough previously, but cough and expectoration after the sudden attack of dyspnœa. The patient was at work the day before. Ten days before admission the dyspnœa grew gradually worse, and was attended with pain in the side. Pneumothorax of the right side with effusion was diagnosed. Forty-one ounces of sero-purulent fluid were withdrawn. The pressure was high. A second tapping fourteen days later yielded twenty-two ounces of fluid. Complete recovery followed. Three years have elapsed, and the patient is well and active. The second case was one of phthisis of nine months' duration. The pneumothorax of the right side took place whilst the patient was in hospital. Death occurred two days later from asphyxia due to obstruction of the bronchi by the contents of a large cavity, emptied probably by the compression of the lung. The third case began suddenly three weeks before admission; there had been cough for two months, or five weeks before the attack. The patient was admitted with dyspnœa and hæmoptysis. Pneumothorax of the right side with effusion was diagnosed. Paracentesis was performed, and twenty-eight ounces of sero-purulent fluid withdrawn. Three weeks later thirty-six ounces were obtained. A few days later still, a purulent discharge took place at the site of the puncture. Then a free incision was made. Hæmorrhage from the pleural cavity set in two days later, and hæmoptysis occurred a few days afterwards. Exhaustion led to death without further hæmoptysis. In the first case the cause was probably phthisis; the pressure in the pneumothorax was high. The composition of the gas was discussed, and also the nature of the effusion. The dilated state of the veins was commented upon, and also the prognosis in pneumothorax. As to the second case, Dr. West remarked that the chief cause of the dyspnœa, discharge of the contents of cavities into the bronchi, was not often described. On the third case it was observed that aneurysm of the pulmonary artery and pneumothorax were but rarely associated; the processes which led to each condition were, so to speak, of opposite nature. A criticism of the proposed treatment of profuse hæmoptysis by the artificial production of pneumothorax concluded the interesting paper.

Mr. W. J. WALSHAM read a case of Lithotrity at a single sitting in a boy ten years old. A boy aged ten was admitted into St. Bartholomew's Hospital, July, 1884, for stone in the bladder. Mr. Walsham performed lateral lithotomy in August, 1884. The boy made a good recovery, and was discharged without signs of stone. He was readmitted in February, 1885, with a return of his symptoms; and on the 26th of that month Mr. Walsham at one sitting crushed and removed a stone, the larger fragments of which weighed fifteen grains and consisted of oxalate of lime. The boy had no bad symptom, and left his bed within three days of the operation. Although in this boy both the cutting and the crushing operations were successful, a comparison of the results of the two was most striking. After the cutting operation, although he had no bad symptoms, he had to remain in bed for over three weeks, and for the first few days necessarily suffered some inconvenience from the passage of urine through the wound; whereas, after Bigelow's operation, although he was kept in bed for three days for the sake of precaution, he was practically convalescent on the morning after the operation. The chief objections that have been raised to lithotrity in children are, to quote the words

of an eminent Indian lithotritist, Surgeon-Major Fryer, "that the genito-urinary organs are undeveloped, the bladder small, the urethra narrow, and the mucous membrane of both extremely sensitive and liable to laceration." That the genito-urinary organs are undeveloped, and that the bladder and urethra are smaller than in adults, are of course facts, but Mr. Walsham questioned whether they are objections to lithotrity in children. The undeveloped condition of the genito-urinary organs, by which presumably is meant, as concerns lithotrity, the undeveloped condition of the prostate, Mr. Walsham regarded as a positive advantage, as one of the chief difficulties in lithotrity in adults is referable to an enlargement of this organ; nor does he regard a small bladder, of course within limits, as a very serious objection—many lithotomists, Sir Henry Thompson among the number, preferring to work with the bladder containing only two or three ounces of urine. There are but few bladders, even in young children, that will not contain at least this amount. Even granting that the bladder is smaller than could be desired, it is more likely to be in a healthy condition than in adults, and if a little more injury is done to the mucous membrane, the forces of repair are all in favour of the child. With regard to the narrowness of the urethra, he had not the least difficulty in passing a No. 12 evacuating catheter after the meatus had been incised, and Dr. Keegan had found that the urethræ of boys of between four and six years will admit the passage of a No. 7 or No. 8 evacuating catheter, and the urethræ of boys of between eight and ten a No. 9 to No. 12. Experiments made by himself on the urethræ of children confirmed this belief. Mr. Walsham, moreover, questioned the extreme sensitiveness and liability to laceration of the urethra in children, and Dr. Keegan went so far as to pronounce this dictum as one of the time-cherished delusions in surgery. Dr. Keegan had performed the operation forty-two times in India on boys under twelve; and the success which had attended his cases showed that, even if such laceration occurs, it does no serious harm. Twenty of his patients were under the age of six; one was only one year and nine months. The smallest stone weighed 5 grains, from a boy of eleven; the largest, 236 grains, from a boy of seven, was composed of oxalate of lime. Mr. Walsham, in the light of this experience of Dr. Keegan and others in India, questioned whether lithotrity at one sitting ought not, as a rule, to be the operation undertaken in boys, whatever their age, as it had now become the operation in adults.—Mr. T. BRYANT considered that lithotrity was available for small stones. But the urethra was a tender and delicate part, and for large stones he thought that more damage might be done than would ensue from a lithotomy incision.—Mr. J. HUTCHINSON thought the Society was much obliged to Mr. Walsham for his case, and for the record of Indian experience. The operation was one that must be submitted to experience before a positive conclusion as to its practicability and value were decided upon. Certain disadvantages unquestionably appertained to the lateral operation in children.—Mr. BRUCE CLARKE spoke of the size of the urethra in young children. He mentioned one case in which a stone having the diameter of a No. 16 English catheter was liberated from the urethra.—Mr. R. W. PARKER referred to the statement of Von Langenbeck that in the lateral cutting operation the ejaculatory ducts were liable to be injured, with evil consequences later in life.—Mr. WALSHAM, in reply to Mr. Parker, could say no more than that the observer named and Mr. T. Smith had asserted that damage might be done to those parts.

The following living specimens were shown:—Mr. Bellamy: Enormous Vascular Tumour of the Upper Limb in an Infant. Mr. Stephen Paget: Synovial Cyst of the Leg in connexion with Disease of the Knee. Dr. S. WEST: Pneumothorax, with rapid recovery.

MEDICAL SOCIETY OF LONDON.

Evisceration of Globe of Eye.—Dislocation of Patella.—Bony Union of Fractured Patella.—Myxœdema with Contractions.—Spinal Sclerosis and Osteo-arthritis.—Lateral Sclerosis with knee-clonus but without ankle-clonus.—Amputation of Leg for Sarcomata.—Hereditary Tremor.

A CLINICAL meeting of this Society was held on Monday last, Mr. Brudenell Carter, F.R.C.S., President, in the chair.

Mr. R. BRUDENELL CARTER showed a boy aged ten, whose left globe had been eviscerate by Dr, P. H. Mules' operation, by which an artificial vitreous body might be employed.

Mr. J. H. MORGAN exhibited a girl with outward Dislocation of the Left Patella on flexion at the knee. Hueter ascribed the deformity to congenital laxity of the ligaments, especially on the inner side of the knee; others regarded it as due to a partial paralysis of the triceps extensor; with the latter view Mr. Morgan could not agree.

Mr. A. P. GOULD exhibited for Mr. Batterham of Wolverhampton a man aged thirty-seven, with Bony Union of a Transverse Fracture of the Patella. A plaster-of-Paris bandage was applied immediately after the accident. Six days later he got up, and on the tenth day left the hospital. At the end of ten weeks a leather support was applied, and the patient was able to walk long distances without fatigue.—Mr. B. JESSETT referred to a case of compound comminuted fracture which he treated by plaster-of-Paris bandages, with the result of complete bony union. A second case of simple transverse fracture was also successfully treated by the same method.—Mr. ALLINGHAM, jun., also testified to the value of the method of treatment.

Dr. W. M. ORD showed a typical case of Myxœdema in a woman aged thirty-seven, in whom the affection had lasted fourteen years. In addition, there was persistent contraction of the muscles in the limbs; generally speaking, the limbs were in a state of extreme flexion, which could be easily overcome, but prevented the deep reflexes from being obtained; it had varied considerably from time to time, and the winter cold always made it worse. Dr. Ord considered that the contractions were of functional nature. The highest motor centres were in a state of feebleness, and incoordination sometimes resulted therefrom. Mental aberrations taking various forms were also observed in myxœdema. In reply to Mr. R. B. Carter, Dr. Ord said that no contraction of the triceps was obtained on percussing the patella tendon.—Mr. S. MACKENZIE spoke of the character of the tonic spasm, which differed from tetany and from the ordinary hysterical contracture, in which extension is a prominent feature. Did sleep make any difference in the spasm?—Mr. BREVOR remarked on the tremor of the hands, which was also observed in experimental mxyœdema.—Dr. HERON said that one patient of his was perfectly aware of the long interval between the apprehension and the execution of a desired act.—Dr. D. DREWITT spoke of hereditary myxœdema.—In reply, Dr. ORD said he was unable to say in what parts the delay occurred; probably it varied in different cases. The spasm relaxed during sleep.

Dr. ORD also exhibited a case, apparently of Disseminated Spinal Sclerosis. All the joints of both hands were deformed, being of the nature of osteo-arthritis. Considerable thickening of the joints with ankylosis existed; there was much muscular atrophy of the hands, and also a glossy skin. The tremors and rigidity of limbs had in great degree diminished. The association of several dystrophies with the spinal symptoms was very noteworthy. The osteo-arthritis and atrophy of muscle and skin had been present about three years. Probably the loss of power, tremors, rigidity, and trophic changes were all due to one and the same spinal affection.—Dr. BREVOR asked whether it might not be a case of paralysis agitans.—Dr. ORD could not accept this view.

Dr. STEPHEN MACKENZIE showed a boy affected with Lateral Sclerosis of doubtful date; probably it gradually began two years ago. There was present an unusual condition of the deep reflexes. There was no ankle-clonus, but a most marked bilateral knee-clonus, the vibration lasting as long as the tension was maintained. In reply to Mr. Carter, he thought there was probably a localised lesion specially involving the nerve apparatus presiding over the quadriceps extensor. The phenomenon in this case had been detected by Mr. Rawes, house-physician at the London Hospital.

Mr. PURCELL showed drawings of a case of Round-celled Sarcoma of the Deep Muscles of the Calf. Amputation was performed by the method attributed to Hardie of Manchester. He also showed a case of subperiosteal ossifying sarcoma of the tibia and fibula of a boy; amputation was performed. Secondary growths appeared later on in the head and spine, lungs, liver, and brain.—Mr. CARTER related a case in which the same operation was performed for compound fracture of the leg.—Mr. JESSETT said that the retention of semilunar cartilages in the stump prevented the retraction of the thigh muscles.

Dr. S. WEST showed a case of Hereditary Tremors. The tremors existed in all the limbs, especially affecting the hands. It resembled paralysis agitans in that on performing

volitional acts the tremors almost disappeared. The patient, a man aged fifty, was one of a family of ten, all of whom were more or less affected. The mother and grandmother were also the subject of the disease. He had six children, some of whom were affected. The affection began very early in life.—Dr. S. MACKENZIE had seen two or three cases of the same kind. The articulation was affected sometimes, and always made worse by excitement. He had seen the disease in very early childhood.—Dr. A. MONEY said the hereditariness recalled the disease known as chronic hereditary chorea, which also ran in families, but differed in coming on during adult life, and in being associated frequently with mental defects.

OPHTHALMOLOGICAL SOCIETY.

Coloured Drawing by a Colour-blind Artist.—Persistent Pigmentation after Jaundice.—New Formation of Pigment on Anterior Surface of Iris.—Staphyloma of Choroid.—Relapsing Cyclitis.—Herpes Facialis, with Affection of Eye.—Hæmorrhagic Glaucoma treated by Trephining.—Wound of Eye immediately followed by Iritis Serosa of the other Eye.—Central Guttate Choroiditis.—Glaucoma treated by Convex Lenses.

AN ordinary meeting of this Society was held on the 8th inst., Mr. Hutchinson, F.R.S., President, in the chair.

The PRESIDENT referred to the loss the Society had sustained by the death of Mr. Streatfeild, who had acted as its treasurer since the foundation of the Society. He paid a high tribute to Mr. Streatfeild's moral qualities, as well as to his surgical attainments.—Mr. BRUDENELL CARTER moved that a letter of condolence be addressed by the President, in the name of the Society, to Mrs. Streatfeild.—The motion was seconded by Mr. COWELL, and unanimously carried.

Mr. EDGAR BROWNE showed a drawing made from a copy by a colour-blind man. He had omitted the red, and substituted a rusty red for the green. The patient was unaware of his defect.

Dr. SEYMOUR TAYLOR showed a patient who had jaundice eighteen or nineteen years ago; the lower lids on both sides were pigmented, but on the left side the pigmentation had disappeared; the lower lid was of a dark green colour, and in the subconjunctival tissue of the lid there was a dark band of pigmentation, which did not affect the tarsal area.—The PRESIDENT had never seen a case where the same slaty colour of the pigment was present and had the same distribution. The case was quite distinct from chromidrosis.

Mr. NETTLESHIP showed drawings and microscopical sections of the Iris of four cases, where a new formation of pigment occurred on its anterior surface. In each eye there was a patch of pigment on the front of the iris; the new pigment had the same appearance as the natural uvea, with which it was continuous in one case. In this case microscopical preparations were made, and the new pigment was everywhere covered by a thin but distinct colourless layer, varying in thickness, and often showing scattered round nuclei or corpuscles; this lamina was continuous with the altered anterior basement membrane of the non-pigmented part; where the pigment was present the proper tissue of the iris was atrophied.—Mr. LAWFORD showed a similar condition in a less advanced stage; the eye had undergone iridectomy for glaucoma; there had been iritis.—Dr. BRAILEY thought Mr. Lawford's case fully explained by ectropion of the pigment layer of the posterior part of the iris, so common in advanced cases of glaucoma. The pigment was rolled far more into view than it is commonly. He regarded Mr. Nettleship's cases as of quite a different character, as in them the eye appeared to be otherwise normal. The appearances of the lithographic plate published by the same author in vol. v. were not consistent with the view of ectropion from glaucoma, and that was probably like the cases he showed to-day, and consequently entirely different from that of Mr. Lawford.—Mr. H. E. JULER had some sections in his possession which led him to take the same view.—Mr. LANG said that where the pigment appeared as a circular band around the pupil, the iris muscle was also turned upon itself, but that where the distribution of the pigment was irregular there was no eversion of the sphincter.—Mr. NETTLESHIP said that in one case, of which he had specimens, there was no doubling up of the sphincter, but the iris was atrophied at its free margin.

Mr. LANG exhibited a patient with Glaucoma and Coloboma of the Choroid, with Loss of Vision. The coloboma extended upwards and outwards, was narrow and long, and reached nearly up to the yellow spot. He did not know whether it was congenital or due to myopic staphyloma. As to traumatism, there was a scar in the cornea of the other eye, which was also somewhat myopic; but this was hardly sufficient to explain it. The patient had lived in Ceylon, and another patient from this region also had a scar on the cornea.

Mr. J. HUTCHINSON showed a woman suffering from Relapsing Cyclitis. At first sight syphilis suggested itself. There was iritis with ciliary congestion; also a dusky papular eruption on the skin, with sores on the lips. But the eye had been affected one year, and the other eye two years ago had undergone the same changes, with the result that the ciliary region was now thin and dusky. The cutaneous eruption had lasted two years; was better in summer and worse in winter. Mr. Hutchinson had also seen another case of the kind. Both patients had resided in Australia. The eruption had some resemblance to small-pox, and it left scars. There were indolent masses and tubercles on the fingers and ears, some of which looked like chilblains. The weakness of circulation which accompanied chilblains was possibly also operative in the production of relapsing cyclitis. Inherited gout and rheumatism perhaps played a part, as well as that condition of circulation that gives a proclivity to chilblains. In the case shown there was a strong history of a tendency to rheumatism, but none of gout; the patient had a cachectic strumous aspect.

Mr. WALTER H. JESSOP read a paper based on four cases of Herpes Facialis affecting the eye. In the first case the herpes followed the track of the external division of the supra-orbital nerve; the eye was affected with iritis, keratitis punctata, and increased tension; recovery, with perfect vision, occurred quickly. In the second, herpes along the lacrymal division of the ophthalmic nerve was followed by keratitis punctata and interstitialis. In the third case there was herpes along the frontal and lacrymal divisions of the ophthalmic nerve, early anæsthesia of the cornea, and superficial keratitis. In the fourth case the herpes followed the course of the infra-orbital nerve, and there were phlyctenular ulcers on the cornea. It was pointed out that herpes facialis followed the distribution of the fifth nerve, and that, when the eye was involved, the branch affected was usually the ophthalmic, but sometimes the superior maxillary. The most usual distribution was along the frontal, but there was no recorded instance of the nasal being the only branch affected, nor of the nasal and lacrymal branches being simultaneously attacked, while the frontal escaped. The fourth case was, he believed, the only recorded instance of the cornea being affected in herpes infra-orbitalis. Mr. Hutchinson had pointed out that the eye was affected if the oculo-nasal branch was attacked. The most common ocular complications were swelling of the lids, conjunctivitis, and increased lacrymation; the cornea might become affected by superficial ulceration, phlyctenulæ, interstitial keratitis, or keratitis punctata, and neuro-paralytic keratitis has been recorded. Serous or plastic iritis might occur, and the pupil, though generally contracted, has been found sometimes dilated. The chief affection of the fundus was papillitis. The tension was said to be generally lowered. Palsy of the extrinsic muscles and paresis of accommodation had been recorded. After referring to the post-mortem evidence of neuritis and dilatation of the ophthalmic artery, Mr. Jessop expressed the opinion that all the ocular symptoms, with the exception of the rarest, might be explained by supposing a dilatation of the vessels due to irritation of the sensory nerve. Vascular dilatation lasting some time would especially influence such a structure as the eye. If the whole attack were due to the neurotic storm, the different nerves would be affected nearly simultaneously, and the ocular symptoms would be coincident with the cutaneous eruption, which was not the case. Mr. Jessop attributed to Mr. Hutchinson the credit of first separating herpes accompanying the ophthalmic division of the fifth nerve from erysipelas.—The PRESIDENT said that it was a mistake to suppose that herpes zoster did not occur in apparently healthy persons. His observation, to which reference had been made, was that the severity of the disease was in proportion to that with which the tip of the nose was affected; and if the disease occurred in the latter situation, the eye suffered. It was desirable to bear in mind that the true definition of zoster was a neuritis, often

attended by skin disease; there were many cases where neuritis occurred and caused pain, but no skin lesion.

Mr. SPENCER WATSON showed drawings from a case of Hæmorrhagic Glaucoma in a man aged sixty-four; the sclerotic was trephined, and the choroid was accidentally perforated. The tension became normal, and so remained for three months, but without any improvement in vision. The tension, however, again rose, so that the result was most unsatisfactory.—Dr. W. A. BRAILEY said that in those cases where pain was severe and vision hopelessly lost the best treatment was to stretch the supra-trochlear nerve.—Mr. MCHARDY thought the case showed conclusively that the operation of trephining was liable to fail entirely to relieve the distressing tension in these cases. He had been astonished by the ease with which the supra-trochlear nerve could be found in the living subject.—Mr. EDGAR BROWNE had stretched the supra-trochlear in two cases without noticing any diminution in tension.—Mr. WATSON said, in reply, that since the operation pain had not recurred.

Mr. EDGAR BROWNE read a case of Wound of one Eye, followed almost immediately by Iritis Serosa of the other. The accident happened to the patient on Nov. 6th, 1885, after which he took a long railway journey, and in the severe cold. It was found on Nov. 7th that a wound of the left eye existed; the cornea was hazy, the pupil sluggish, and a thorn in the anterior chamber was found lying obliquely, fixed between the iris and posterior layer of the cornea; the anterior surface of the lens was opaque; the thorn was coated with lymph. Mr. Browne did an iridectomy on Nov. 7th. The next day violent pain was experienced in the other eye, which showed iritis with much congestion, but no dots on the cornea. A day later, however, keratitis punctata had developed. The wounded eye healed well, and by Dec. 23rd the mischief had altogether subsided. There was at no time any papillitis. It was discussed whether the case could be regarded as one of sympathetic serous iritis; there were difficulties doubtless in the way of accepting this view, but the facts alone were worth recording.

A paper on Central Guttate Choroiditis, by Mr. L. WERNER, of Dublin, was read by the SECRETARY. Its object was to point out that the "infiltration vitreuse de la rétine et de la papille," described by Dr. Masselon, was, in reality, the same disease as central guttate choroiditis. A drawing of the latter condition, published by Mr. Nettleship in the Transactions, vol. iv., showed a condition exactly resembling Dr. Masselon's drawings; the descriptions were practically identical, both authors describing the same small scattered dots of choroidal disease, apparently caused by deposit, equally distributed in both eyes, with retention of vision.—The PRESIDENT did not consider that the preservation of vision was a constant part of these cases, though the diminution of vision was not proportional to the amount of lesion.—Mr. ADAMS FROST quoted a case where vision was unaltered.—Mr. JULER referred to a case, previously recorded, where there was some disturbance of pigment, which supported the view that the affection was seated in the choroid.—Mr. NETTLESHIP had recorded the cases referred to by Dr. Werner for the reason that vision was not affected, though the patches were so numerous; as a rule, vision was affected. It was possible that the seat of these so-called colloid nodules might determine whether vision was altered. Where they occurred in the optic nerve, as was occasionally the case, vision was more liable to be affected, even though the number of nodules was small. He, of course, laid no claim to novelty in his paper, and the honour of first describing the condition belonged to Messrs. Hutchinson and Waren Tay.[1]—Mr. WAREN TAY said this disease was not necessarily central. Now and then a case was observed in which similar spots were purely peripheral, without the vision being affected. The patients need not be senile, for precisely similar spots were seen in quite young people. In the first cases noted vision was affected, but most observers had since seen cases where vision was unaffected.—The PRESIDENT had had an opportunity of comparing the condition noted in a drawing five years ago with the condition of the eye at the present time; there had been no alteration, and vision had slightly improved. Mr. Waren Tay had been the first person to call his attention to this condition, and the paper in the Ophthalmic Hospital Reports was founded on these first cases.

Mr. GEORGE E. WALKER gave an account of two cases of Glaucoma treated successfully with Convex Lenses. Case 1: A man aged thirty-three, in whom the left eye had been excised after two iridectomies for glaucoma. The right eye subsequently showed similar symptoms, and Mr. Walker ordered him to wear continuously spectacles with a 36-inch focus, which just neutralised his hypermetropia. When last seen, at the end of three months, vision was normal and the eye free from pain. Case 2: A man aged fifty-five, who since childhood had been liable to headache on attempting to read. In 1877 he began to have attacks of great pain in the eyes and head, with blindness. In 1883 he was told he had chronic glaucoma; iridectomy was done in the left eye, which speedily became blind. On October 28th, 1885, Mr. Walker found vision imperfect, the field narrowed, and tension increased. Vision was improved by a 20-inch convex lens; after using this glass for a fortnight pain had ceased, vision had improved, and the field had increased. He remained well up to the day of the meeting (162 days). On the previous day Mr. Walker had introduced homatropine in order to examine the fundus. He travelled to London, and on the following morning was found to be suffering from acute glaucoma. With rest in bed and fomentation, he improved so rapidly that, two hours before the meeting, he was in a fair way of recovery. The patient said that the attack resembled previous ones; and, though inopportune, it afforded an opportunity of proving that the previous attacks were of the same nature, though more severe. Mr. Walker maintained that these two cases, together with the previous one, which had remained well since, shown to the Society in 1884, afforded conclusive proof of the truth of his theory of the production of glaucoma, and afforded corroborative evidence that the ciliary body was not merely an engine of accommodation, but also a pump, or lymph-heart, for the purpose of forcing waste fluid from the anterior chamber into the vein.

Mr. W. H. JESSOP showed a new Pupillometer constructed on the same principle as a wire gauge.

Mr. BRUDENELL CARTER exhibited two Perimeters, the first of which was his original quadrant perimeter recently modified by Mr. Hawksley. The quadrant is formed of tubing, rectangular in section, and contains a small pulley concealed within its free extremity. The traveller which carries the object is attached to a length of fine catgut, also contained within the tube, which passes round the pulley, and also round a reel at the other or fixed end of the quadrant. The second perimeter was in essentials that invented by Dr. Dyer, of Newport, Rhode Island, and lately described and figured in the Transactions of the American Ophthalmological Society.

[1] Ophthalmic Hospital Reports, 1875.

OBSTETRICAL SOCIETY OF LONDON.

Contraction, Inhibition, and Expansion of the Uterus.—Mitral Stenosis in Labour.

A MEETING of this Society was held on Wednesday, April 7th, Dr. Black, Vice-President, in the chair.

Dr. MATTHEWS DUNCAN read a paper on Contraction, Inhibition, and Expansion of the Uterus. The uterus proper, or its body, is chiefly considered, but not to the entire exclusion of the cervix uteri and vagina. Contraction is temporary, and followed by relaxation and return to original dimension. It may be morbid in force, in duration, in rhythm, in extent. Contractions in childhood are believed to be present, and in the whole of menstrual life, and especially in menstruation. They are morbid in dysmenorrhœa spasmodica and may be tetanic. The rate may be six in an hour. Contractions perhaps occur in a fibroid, certainly around it, and especially at menstrual periods. The healthy contractions of pregnancy, to which Dr. Braxton Hicks has devoted much attention, are considered; they may be morbid and painful. Then come the contractions of abortion, miscarriage, and labour at term and in the puerperal state. When do pains commence? Then the commencement of labour is discussed; it is not the commencement of contractions, but of inhibition and of retraction. The internal os uteri is not the weakest part, but the fundus—at least according to mechanical principles. Stretching of fibres does not explain commencement of labour. The uterus grows to a size, and it is expanded by growth and a very slight force. The analogy of urination and of defecation with labour is considered. The necessity of inhibition of the circular fibres of the lower segment of the uterus is discussed. Morbid changes of inhibition are pointed out.

Lastly, the power of arresting and inducing contractions is mentioned.—Dr. HERMAN had had under his care in the London Hospital a case somewhat analogous to the examples of painful uterine contractions during pregnancy which Dr. Duncan had related. It was that of a patient with fibroids of the uterus, who suffered from severe paroxysmal uterine pains throughout the inter-menstrual period, these pains being only absent during menstruation. She was treated with ergot, which aggravated the pains. The cervix uteri was then dilated, after which the pains ceased, and they were absent for two or three months. They then returned, and the cervical canal was again dilated and the pains again removed. After this he lost sight of the patient. — Dr. CHAMPNEYS said that the antagonism existing between the opposite poles in the uterus had been called "polarity" by Reil, and he thought it was a convenient and concise term. Although Dr. Duncan had expressly stated that he was not now discussing polarity, it had formed a considerable part of the discussion on his paper, and Dr. Champneys had made these few remarks on that ground. He thought that spontaneous yielding of the cervix could not be denied in face of the following facts. In labour with contracted pelvis the head is sometimes arrested above the brim, the membranes present in the shape of the finger of a glove; but in spite of these conditions the cervix is found by the hand (introduced, perhaps, for the sake of turning) hanging flabby and relaxed almost as if labour had already occurred. Again, it sometimes happens that the os tincæ refuses to dilate, and remains rigid; however strong the labour pains may be under these circumstances, great retraction may take place, and Bandl's ring may be felt high up, the lower uterine segment being greatly thinned; the polarity is disordered, the expansion which should possess the lower pole of the uterus is replaced by contraction, and the result is a deadlock. In such a case, in presence of accidental hæmorrhage, he had turned by bipolar method, brought down a foot, and (apparently from reduction in the contents of the uterus) the cervix relaxed. He thought it could not be maintained that the external os was stronger than the internal. He would ask Dr. Duncan whether he had been able to distinguish the contractions of the vagina from those of muscles near it. Painful labour pains during pregnancy were like those of other hollow viscera in which disorderly contractions produced colic.—Dr. BRAXTON HICKS, without discussing the whole paper, wished to point out a fact not alluded to—viz., that during the last six weeks of normal pregnancy the os and cervix were in a large number of cases patent enough for one or two fingers to be readily passed in. When proceeding to induce labour at seven and a half or eight months he was often able to employ at once the largest size of Barnes' bags. The subject of the paper could not be fully discussed without this fact being taken into accoun.t — Dr. HORROCKS said that physiologists have formulated a law that whenever a muscle contracts its opponent relaxes. This law is applicable to all muscle, voluntary or involuntary. He illustrated the law by reference to various groups of muscles. The sphincter of the orifice of a cavity is the opponent of the walls of the cavity. Hence the cervix uteri relaxes when the fundus contracts. This is a physiological process known as inhibition, and doubtless has some nerve centre in the spinal cord or sympathetic plexuses presiding over it. If the longitudinal fibres in the cervix assist in opening the cervical canal, they are no doubt acting when their opponents, the circular fibres, are relaxing. Have we any means of affecting this inhibition and contraction by drugs or electricity? In his hands electricity has failed to bring on labour. Chloroform, chloral, and opium may to some extent inhibit uterine muscular action, but not electricity. The rhythm of the contractions is an interesting study. Dr. Boxall distinguishes two varieties of rigidity, muscular and fibrous. One or both are frequently operative, and they are often combined. The treatment must vary in the two cases. In omitting to relegate the rigidity to its cause may possibly be found the varying results obtained by electricity.—Dr. W. S. A. GRIFFITH, referring to the effect of electricity on the uterus, remarked on the great differences of opinion held by different observers, most of whom, however, appeared to agree with Dr. Horrocks that it was of little value in causing or increasing uterine contractions. Dr. Kilner, in a paper read two years ago, pointed out the value of the interrupted current in diminishing the acuteness of labour pains.—Drs. Galabin, Graily Hewitt, G. Roper, and Cleveland also spoke.—Dr. MATTHEWS DUNCAN, in reply, said that he was much fortified in his own views by the general concurrence of the gentlemen who had spoken. Some supposed differences of opinion were the result merely of different meanings of terms.

Dr. GEORGE COATES read a case of Mitral Stenosis in Labour. The patient was twenty-two, and had suffered from rheumatic fever, but had no suspicion of heart disease. She had suffered from anæmia and breathlessness. The labour began on Oct. 23rd, 1885. On the 24th she felt faint several times. On examining the heart a presystolic murmur at the apex was detected. In the evening the os was fully dilated, and she showed signs of exhaustion; the forceps were applied and delivery accomplished. The pulse varied in the next two hours from 180 to 130, then it fell to 108, and in the morning to 76. The murmur disappeared on and after the tenth day. On Nov. 13th she had a rigor, and sharp pain in the left breast, one elbow, &c. She was treated for acute rheumatism and recovered, the murmur quite disappearing.—Dr. HERMAN thought Dr. Coates' case interesting and instructive. He would be largely guided in the management of heart disease during pregnancy by Dr. Angus Macdonald's writings, but he thought that author took too unfavourable a view of the prognosis. Published cases and consultation cases contained too large a proportion of bad ones. Dr. Coates' case showed that pregnancy and labour might be gone safely through.—Dr. CHAMPNEYS said that Dr. Coates' case differed from most recorded and from those he had seen. All carefully recorded cases were valuable. Dr. Macdonald's work was from a very small number of observations. Mitral stenosis was supposed to be the worst form of mischief in these circumstances.—Mr. E. S. TAIT gave details of a similar case to that of Dr. Coates, but there was no acute rheumatic attack during convalescence.

The following specimens were shown:—Dr. W. S. A. Griffith: Naegelé Pelvis. Dr. John Phillips: Infant one month old with Fusion of the Phalanges of the Right Index and Middle Fingers (living specimen). Dr. John Phillips, for Dr. Playfair: Hæmato-salpinx with Ovarian Cyst. Dr. Benington; Meningocele in a New-born Child.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

A QUARTERLY meeting of this Association was held on April 8th in the Great Central Hotel, Carlisle, Dr. Campbell (Garlands, Carlisle) presiding. There was a large representative attendance from Scotland and the north of England. Papers dealing with important points in lunacy and the treatment of insanity were read by the Chairman, Dr. Keay, Dr. Campbell Clarke, Dr. Ireland, Dr. Wallis, and Dr. Greenlees, and considerable discussion followed. On the motion of the Chairman, seconded by Dr. Macleod of Beverley, the following resolution was passed:—"For the safety of insane patients, as well as those brought into contact with them, it is desirable that previous to removal to the asylum it should be the duty of the relieving officer effecting the removal to ascertain satisfactorily that such patients are not in possession of articles likely to cause injury to themselves or others." It was further agreed that copies of this resolution be forwarded to the Parliamentary Committee of the Association, as well as to the President of the Local Government Board and the Commissioners in Lunacy.

THAMES VALLEY DRAINAGE.—The Heston and Isleworth Local Board has received the sanction of the Central Board to borrow £77,000 for the purpose of constructing a separate system of sewage disposal for these two parishes. By the scheme to be employed the sewage, instead of being pumped up, will be forced through iron pipes to the proper level by means of Shone's pneumatic ejectors. After clarification by precipitation and filtration through land, the effluent will be discharged into the Crane, a tributary of the Thames.

AT a meeting of the governors of the Cardiff Infirmary on the 12th inst., it was resolved to let the old infirmary building to the council of the South Wales University College on lease for seven years at £400 a year rent, the College to spend £1000 in alterations of the building.

Reviews and Notices of Books.

Practical Surgery; including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excisions of Bones and Joints. By J. EWING MEARS, M.D., Lecturer on Practical Surgery and Demonstrator of Surgery in Jefferson Medical College, Surgeon to St. Mary's Hospital, &c. With 490 Illustrations. Second Edition. Philadelphia: P. Blakiston, Son, and Co. 1885.

Surgical Handicraft. A Manual of Surgical Manipulations, Minor Surgery, and other Matters connected with the Work of House-Surgeons and Surgical Dressers. With 233 Illustrations on Wood. By WALTER PYE, F.R.C.S., Surgeon to St. Mary's Hospital and to the Victoria Hospital for Sick Children, &c. Second Edition. London: Henry Kimpton. 1885.

To some extent these works cover the same ground. In each we have descriptions of surgical dressings, bandaging, and of fractures and dislocations. But Dr. Mears describes the ligature of arteries, amputations, and excisions, which are not included in Mr. Pye's book. In his turn, however, Mr. Pye deals with many matters not alluded to by Dr. Mears, such as the varieties and application of trusses, the use of catheters and bougies, the preparation of patients for operation, and many of the minor operations in surgery. The descriptions of surgical dressings are alike good in both books. Dr. Mears has gone to head-quarters for his details of antiseptic dressings, and we observe that the figures illustrating them are taken from Mr. Watson Cheyne's work. By the way, Mr. Pye speaks of immersing the instruments prepared for an operation in a solution of carbolic acid of the strength of 1 in 60 to 1 in 120, whereas the usual strength of the solution is 5 per cent., and it is certainly desirable to have it of this strength where aseptic surgery is aimed at. The application of bandages is plainly dealt with by each author, but Mr. Pye is much fuller than Dr. Mears. The latter's illustration of how the reverse spiral should be made is very inaccurate, and similarly the drawing of the breast bandage is at fault. Dr. Mears devotes 360 pages to the treatment of fractures and dislocations, and we are therefore surprised not to find any mention of Carr's splint for the treatment of Colles' fracture. The details of the application of the various means for arresting hæmorrhage are very imperfectly given by Dr. Mears; forcipressure is only mentioned, not described, and torsion is most imperfectly represented and inadequately described. Mr. Pye's account of the arrest of hæmorrhage is much better, but he fails to notice the importance of leaving on forcipressure forceps until an internal clot has formed, and of removing them with extreme gentleness so as as not to open up the vessel or displace the clot; when used in this cautious manner forcipressure is quite sufficient to arrest hæmorrhage from arteries the size of the lingual, if not larger. As regards torsion, Mr. Pye speaks with some reserve, and states that a healthy condition of the artery is essential to its success, and that in the case of large vessels the artery requires to be drawn out of its sheath and fixed by one pair of forceps while it is twisted by a second pair. Neither of these limitations is correct; markedly atheromatous or calcified arteries may be safely twisted, and the use of a second pair of forceps is quite unnecessary. Mr. Pye has reduced the size of his volume considerably, and has made some alterations in the text by excision and addition; he has thus added to its value and also put it within the reach of a much wider circle of readers. We are sorry to see that he has not included the old-fashioned carrot-poultice among his list of poultices; it is a very valuable application to bed-sores &c., and very few nurses know how to make it.

Text-book of General Botany. By Dr. W. J. BEHRENS. Translation from the Second German Edition. Revised by PATRICK GEDDES, F.R.S.E. 8vo, pp. 374. Edinburgh: Young J. Pentland. 1885.

WE are indebted to Germany for so many of the works on botany used in this country that the fact of being excelled in that science by another nation seems to have lost its sting; and we now receive from the hands of a well-known botanist at the university which has the largest botanical class in Great Britain a text-book of botany translated from the German, which might surely have been produced, one would think, by an English author, consisting as it does of well-known facts arranged in relation to the latest discoveries. The first glance through the book causes a feeling of wonder that Dr. Behrens' work should have met with the hearty reception it has done from teachers of botany, but this vanishes on a closer inspection of its contents. It is arranged in five parts. Part I., relating to morphology, is somewhat condensed, and presents no features worthy of special remark except the illustrations, which in this part, as throughout the book, are almost without exception excellent. Part II. is devoted to systematic botany. The classification and the names adopted for the groups are at variance with those in common use in this country, and here an editorial chapter is much required to explain the differences between the various systems of classification adopted on the Continent as compared with that followed in works on systematic botany in this country. On reaching Part III. the favour with which the book has been received is explained. Nearly one hundred pages are devoted to the fertilisation of flowers by insects and the natural modes of transport of seeds and fruits, a subject of great interest to students, and calculated to arouse their enthusiasm and to prepare them for the more abstruse parts of the subject which must subsequently engage attention in Part IV., which is devoted to anatomy and physiology, and in Part V., containing an account of the cryptogams. The illustrations in Part IV. will be found very useful, and the subject-matter adapted to give clear ideas to the student. In fact, Parts III. and IV. are the most valuable portions of the work. Part V. is too succinct, and the author in attempting brevity has in some cases sacrificed strict accuracy, and leads the reader into the danger of forming erroneous ideas; thus, Florideæ are said to be "distinguished by the circumstance that their spores are generated in capsules," a statement that, to say the least of it, is misleading. As a text-book, it certainly affords the teacher an opportunity of entering into details and explaining statements that without his help might seem contradictory, and to the student it affords an opportunity of obtaining a comprehensive but general view of the progress that has been made in the science during the last twenty years. The book would have been much more valuable had the reader been referred in foot-notes to works where a more extended knowledge might be obtained. Thus a reference under Algæ to Bornet's "Études Phycologiques," would have enabled the student to reach, in the subject of the Florideæ, the position in which the author proposes to place him—namely, "at the newest standpoint of science." But this omission is the fault of the author, not of the translator or of the reviser, whose work in each case is well done.

The Medical Register for 1886. London: Printed for the General Medical Council, and sold for the Council by Spottiswoode and Co.

The Dentists' Register. Printed for the General Medical Council, and sold for the Council by Spottiswoode and Co.

MEDICAL practitioners and dentists will be pleased at the appearance of these Registers. "Better late than never." We believe the delay is not the fault of the Council, nor of its indefatigable registrar. But there certainly is delay which

seems inexcusable, the Register for the year not appearing till after three months of the year have gone. We fear the Queen's printers, however well they print, print exceedingly slowly. The Medical Register is a work of importance, containing, in addition to the names and qualifications of all registered practitioners, much valuable statistical information. In one table (E., p. 68) is given the relative number of registrations effected in the three divisions of the kingdom since registration began; and in another (F., p. 69) the number of persons whose names have been entered in, or removed, for causes specified, from, the Register in each year from 1875 to the present. This volume contains about forty pages more than that for 1885. The difference is made up chiefly in the greater number of registered persons. The Register for 1886 contains the names of 672 more practitioners than that for 1885. We trust that the Medical Council will see its way clear to still further analyse and classify the facts contained in this Register. The number of each kind of qualification, the number of qualifications possessed by different registered persons, &c., are facts that would be more instructive and interesting than the number and date of each meeting of the General Medical Council. The Dentists' Register does not call for special notice. It shows that there are 5198 dentists in the United Kingdom, 82 per cent. of whom have no other qualification than that they were in practice before the Dentists Act.

THE BROWN INSTITUTION IN 1885.

MR. VICTOR HORSLEY'S report to the Committee of the Brown Institution for the year 1885 shows that a large amount of work of great variety has been prosperously and successfully carried on. A larger number of animals has been treated in the hospital than in any previous year, and at the same time the scientific research in the laboratory has been unremittingly pursued. Mr. Horsley finds that, owing to the great increase of work, it will be necessary to obtain a considerable sum of money in order to equip the laboratory with certain necessary instruments and apparatus which have hitherto been wanting. During the past year 3357 new cases of disease amongst animals were brought to the hospital of the institution for treatment. Of these we note there were 11 of glanders and farcy, 17 of rabies, 155 of distemper, 309 of parasitic disease. The most interesting part of the report is that concerning the laboratory. Twelve gentlemen, besides the Professor himself, have been engaged in original scientific work; this fact speaks volumes in favour of the establishment of a pathological laboratory situate in a more central part of London and having more accommodation. The Brown Laboratory is not a large place, and those who have been there best know its lack of accommodation. This makes it only the more surprising that so much good work could have been carried out under such incommodious circumstances. Dr. Berdez has made an investigation of the ptomaine produced by Koch's "comma bacillus." He has shown that the ptomaine produced by the active growth of Koch's bacillus is not apparently different from that produced in similar fluid, either by the growth therein of a common putrefactive bacillus or of Finckler's comma bacillus. Dr. Theodore Cash has been engaged in the investigation of the manner of destruction of pathogenic micro-organisms by other micro-organisms non-pathogenic in character. Dr. Cash has also shown that animals can be protected from the fatal effects of inoculation with anthrax bacilli by first bringing them under the influence of mercury. It is hardly possible to exaggerate the importance of this observation. Dr. Klein has discovered that the virus of foot-and-mouth disease is a micrococcus, cultivations of which are able to produce the malady. Full details were published in THE LANCET of Jan. 9th, 1886. He has also studied the action of perchloride of mercury on micro-organisms. It has been found that much stronger solutions (ten and fifteen times) than those mentioned by Koch are required to arrest the growth of or to kill micro-organisms. Pathogenic organisms are less resistant to perchloride of mercury than non-pathogenic ones. Spores are of course more resisting than the bacilli themselves; while, for instance, bacillus anthracis of the blood succumbs on exposure for thirty minutes to watery solutions of perchloride of mercury of 1 to 10,000 or stronger, spores have survived, quite uninjured, exposure in solutions of 1 to 10,000 for four days, and even 1 to 1000 for an hour. Mr. Lingard has continued his investigations into the intimate etiology of gangrenous stomatitis or noma. The same disease appears to exist in monkeys and calves as well as in man. The essential characters of the micro-organisms in all cases were similar. They consist of a leptothrix-like growth, the individual threads of which are made up of small bacilli. They occur in great numbers at the line of extension of the necrotic patch. Cultivations have been made from three cases in the human being, one case in a monkey, and numerous cases in calves. Mr. R. W. Parker and the Professor have investigated the question whether perfect reunion of tendons can occur when the divided ends are separated as far as possible. This question has been answered in the affirmative; so that it appears that the rapid method of treatment of tense tendons in orthopædic surgery is decidedly the best. Dr. Wooldridge has been engaged in the study of the coagulation of the blood. Perhaps the most interesting result obtained has been the isolation of a substance from perfectly fresh animal tissues, the injection of a solution of which into the blood of an animal causes rapid death. It causes death by producing intra-vascular fibrinous coagulation. In addition to causing intra-vascular coagulations, the substance curiously enough prevents the coagulation of shed blood. Of Mr. Horsley's valuable researches on the thyroid gland, on canine chorea, and on the relation that obtains between the posterior columns of the spinal cord and the excited motor portion of the cerebral cortex, we have already given full abstracts in THE LANCET of Jan. 9th and 16th, 1886.

ROYAL COLLEGE OF PHYSICIANS.

AN extraordinary meeting of the Comitia was held on Monday, the 12th inst., at 5 P.M. Sir William Jenner, Bart., K.C.B., occupied the chair.

On the motion of the President, the thanks of the College were unanimously given to Her Most Gracious Majesty the Queen for her presence and assistance at the laying of the foundation-stone of the new Examination Hall for the two Colleges; and a vote of thanks was also passed to the Building Committee in general, and especially to the Registrar, Treasurer, and Assistant Registrar, for the trouble they had taken in making the arrangements for the ceremony so complete and satisfactory.

The draft agreement drawn up by the solicitors to the two Colleges for the joint responsibility and management of the new building was considered and approved. Permission was granted to the President to affix the College seal to the lease of the house in Knightrider-street. It was stated that the rental under the new lease had been increased from £30 to £250. The report of the Council on the question of conferring degrees in Medicine and Surgery, and an outline scheme for an examination in Arts in furtherance thereof, were received and referred to the Joint Committee of Delegates for consideration and report, without any expression of opinion by the College on the merits of the scheme.

An animated discussion on the report of the Croonian Trust Committee, in which many of the leading Fellows of the College took part, led to a postponement of the question until another meeting. The chief objections expressed were that the present Croonian Lectureship would be greatly modified by the new scheme, and that future lectures would be mainly devoted to therapeutic science instead of taking a wider range as at present, whilst there was also a great feeling against the surplus, after the lecturer had been paid, being devoted to payments for original researches or inquiries. The report of the committee, and an alternative scheme drawn up by Dr. Bristowe, were ordered to be printed and circulated among the Fellows.

The Medical Bills Committee and the Lunacy Bill Committee were reappointed to watch and report to the College on the Medical Reform Bill and the Lunacy Bills now engaging the attention of Parliament. Dr. West's proposals for the formation of standing committees were allowed to stand over until another meeting, and this concluded the business before the Comitia.

THE LANCET.

LONDON: SATURDAY, APRIL 17, 1886.

THE Fellows of the College of Physicians, and indeed the friends of London medical education generally, will feel a sense of relief in the statement we were enabled to repeat last week that Sir W. JENNER, if re-elected, would consent to hold the office of President for another year. If the occasion were an ordinary one, and the selection to the office were little more than a formal kind of recognition of the esteem in which a physician is held by his colleagues, the profession at large would not need to concern itself as to whether the changes in the presidency were quinquennial, or even annual. But the College of Physicians stands in a different position to-day. It is no longer a mere society of physicians; it has at last taken a very prominent part in promoting education, and its relations to the profession as a whole have become so much more intimate that the interest and anxiety felt as to the nomination of its President have greatly widened. Henceforth the College, in order to maintain its position, will have to look beyond its own interests, and will require to exercise its functions in a liberal and progressive spirit, very different from the manner in which it used to act. It has in a sense broken with the traditions of the past, and must see to it that no obstacle comes in the way of completing the work it has undertaken. Doubtless there are some within the College who regret this. They deplore the changes which are coming over the College, and the loss of its dignity and prerogative which they imagine must inevitably accompany such changes. No doubt they equally lament the disappearance of the Latin prelections and orations in which the Fellows were wont to exhibit their superior culture over the rank and file, and see in all this a degradation of a profession which from their point of view is hardly to be regarded any longer as "learned." An amusing example of the persistence of this superstition is to be found in the examinations for the Membership of the College, where the "culture" of a candidate is supposed to be tested by the translation into English of a passage from "Celsus" or "Aristotle." Happily the major portion of those in whose hands the fortunes of the College are committed see more clearly the position which the demands of modern medical education require them to take, and are determined that an institution which upheld the honour of medicine in the past shall not be content to rest upon its former glories, but shall lead the way in promoting everything that tends to the improvement of medical learning.

No one can doubt that there are many eminent men who would do honour to the College if chosen for the office of President; many whose labours, professional and educational, entitle them to the distinction which can be awarded to so few. Amongst the senior Fellows, whose Fellowships date from the years 1839 to 1859, we find, for instance, such names as the following:—Sir G. PAGET, Dr. REES, Sir H. PITMAN, Dr. C. WEST, Sir W. GULL, Dr. G. JOHNSON, Sir H. ACLAND, Dr. R. QUAIN, Dr. S. WILKS, Sir A. CLARK, and Dr. R. REYNOLDS. Without professing any knowledge of the views held by each of these gentlemen upon the questions which will for some time to come engage the whole attention of the College, it is plain that to some among them the office would be neither desirable nor possible. Thus neither Sir GEORGE PAGET nor Sir HENRY ACLAND could be expected to devote their time and attention to the affairs of the College of Physicians, holding as they do such important positions in the Universities and in the General Medical Council. Nor do we think that there is any precedent for provincial Fellows being elected to the presidential chair. It is not probable that Dr. OWEN REES, Dr. JOHNSON, or Dr. REYNOLDS would undertake the duties of the President's office, especially as the present circumstances demand so much from him in the prosecution of the affairs of the College. Dr. WEST has returned to the metropolis after a few years' sojourn abroad, and although he has evinced great zeal in pressing certain matters of reform upon the notice of the College, it may well be doubted whether he is sufficiently *au courant* with the medical curriculum of to-day to take the lead in the direction of educational reform. To Dr. QUAIN, we fear, objection must be taken, not on the score of his interest in educational matters, for he has been a moving spirit in the University of London and the General Medical Council, but because he has never warmly supported the conjunction of the College with the College of Surgeons. His famous Conjoint Scheme was found to be impracticable, but he may, for aught we know to the contrary, still cherish the hope of bringing it about, and if so the College would again be plunged into a state of discord. Moreover, Dr. QUAIN has never been connected with a medical school as a teacher, and that alone should be a bar to his preferment. Of Sir WILLIAM GULL'S claims to this high office we would wish to speak with every respect. He occupies an eminent position in the public as well as in professional estimation. But he has not been reticent in regard to his opinions, and has declared himself so markedly in opposition to the attempt to secure medical degrees for students in London other than those furnished by the London University, that the Fellows may well pause before placing in his hands the power to direct the ways of the College. Of the three who remain, there can be no question as to the high qualifications of all, most especially of Sir HENRY PITMAN. There is no Fellow of the College who is more conversant with all the details of medical education than he, from the experience he has gained during his long tenure of office as Registrar. He perceives clearly the position which the College must assume in the future if it is to play the leading part in this matter. But Sir HENRY PITMAN is so useful in his present position that, although he has rightfully earned the gratitude of the College, it might be felt that by his promotion a vacancy would be caused which it would be most difficult to fill. Indeed we know that, if elected to the presidency, he would, in consequence of his advanced age, refuse the honour. Both Dr. WILKS and Sir A. CLARK have expressed themselves in favour of the College taking steps to secure to London students reasonable facilities for graduation. They are highly esteemed as physicians and as teachers, and if we might express a preference for Sir A. CLARK, it would be mainly on the ground that he has taken so active a share in the promotion of thorough medical training at the school

with which he is connected, and has, besides, evinced so keen an appreciation of the defects of the present curriculum, that he is likely to prove most zealous in the cause which a large body of English medical practitioners have at heart.

It is, however, fortunate that the Fellows will probably be relieved, for twelve months at least, from the necessity of weighing the claims of these and others to the office of President, as the Fellows will, we feel sure, be glad to express their sense of Sir WILLIAM JENNER'S services by re-electing him by an overwhelming majority.

IN pursuance of the resolution adopted by the College of Physicians in October—namely, "That it is desirable that persons examined by the Royal College of Physicians of London, and the Royal College of Surgeons of England conjointly, and found duly qualified, either by the ordinary or by an additional examination, should have a degree in Medicine and Surgery conferred upon them," the Council submitted to the Fellows of the College on Monday last an outline scheme defining the conditions under which the degrees should be conferred. Although this scheme was only formally introduced, and passed on for the consideration and report of the Committee of Delegates of the two Colleges, without any expression of opinion on its merits by the Fellows of the College of Physicians, its importance and interest necessitate some criticism of it on our part. We take it as an evidence, in the first place, that the Council of the College of Physicians has no intention to leave the question at rest now that the principle of instituting a degree in Medicine and Surgery has been confirmed by the authorities of the two Colleges, but to move another step forward. At the same time we feel that more is needed to put the degree on a satisfactory basis than is shown in this outline scheme.

The amendment moved by Dr. WILKS at the October meeting, to insert the words "or by an additional examination," indicated that the general feeling of the Fellows, as of the medical profession, was in favour of the present examinations being supplemented by some other before a degree could be conferred. The present examinations were to confer the Licence and Membership only, and then another examination would have to be passed before the conferring of the Degree. Many of the Fellows felt that this should be a supplementary examination in Medicine and Surgery, but the Council is evidently of opinion that the existing examinations in those subjects are sufficiently stringent even for candidates for a degree, and we are in agreement with it in this opinion. Since the formation of the Conjoint Examining Board the professional examinations have reached a high degree of excellence. It is in the preliminarary part of the medical student's education that the standard is so miserably deficient. The Second Class Certificate of the Second Division of the College of Preceptors is deemed sufficient for registration, and it is almost impossible to find a lower grade of examination in school subjects conducted by any responsible public body in the kingdom. It is obvious that, even if passing such an examination is permitted for the ordinary licences to practise, it is quite inadequate to test the general education of a future holder of a degree. Consequently the Council has recommended the institution of a special examination in Arts, to be conducted by examiners appointed by the two Colleges, and that this examination shall be compulsory on all persons who have not passed an equivalent examination in a University of the United Kingdom, India, the colonies, or in foreign countries, as recognised by the Board of Management of the two Colleges. It is not, however, laid down whether this Arts examination must precede the final examination, or whether it may be passed at any time before or after this; but we suppose that the latter view is the one favoured by those who drafted the scheme. The compulsory subjects are Latin, one other language, Arithmetic, Geometry, Algebra, and Elementary Mechanics, and two of the following optional subjects—namely, Greek, French, German, Italian, Spanish, Higher Mathematics, Experimental Physics, Elementary Botany, Elementary Zoology, English History, and Geography. It would be much more satisfactory if Experimental Physics, Botany, and Zoology were removed from this list, and, with the present examination in Chemistry, formed into a scientific group, the passing of which, as of an efficient Arts examination, could be made compulsory. No exception could then be taken to the thoroughness and stringency of the course laid down for obtaining the degree.

THE more the Medical Bill is examined the less do we care for it. We do not mean to say that it may not pass, or that, if the Parliamentary situation were different, it might not have a chance of doing so. The worse a Bill is, in some respects, the more is its chance of passing. A Bill that does some good, that removes a scandal, that reforms a corporation or a number of corporations, raises far more opponents than supporters. This is especially true of a Medical Bill. Dealing with a class of subjects and corporations about which the ordinary member of Parliament is in an absolute fog, the matter is abandoned to those in charge of the Bill; and those in charge of the Bill are apt to rely on this ignorance of the House, and to fear only the opposition which comes from bodies needing to be checked, reformed, or disestablished. These bodies can always find spokesmen in Parliament. A strong Minister, who would take the trouble, might in half an hour satisfy the House of Commons that the objects for which the profession has fought for fifteen years are reasonable objects—viz., a reduction in the number of licensing medical boards; a reduction in the members of the Medical Council, and its greater independence of the individual medical corporations; a fair representation of the profession in the Medical Council; and a penal clause more effective for punishing false and fraudulent practice by unqualified persons. Such a Minister would be able to show the House, too, that nearly all these objects had been supported by the Medical Council itself, and by a Royal Commission which had with great pains investigated the changes necessary in the examining bodies and in the Medical Council. We will venture to say that no public man could make this representation more effectively than Sir LYON PLAYFAIR, who knows more about the matter than probably any other man in either House of Parliament. And yet he has deliberately made himself the author of a Bill which secures none of these objects, which will pro-

bably tax the profession in perpetuity to keep up three times the number of corporations that are necessary, which dares not to disestablish the most glaringly superfluous bodies, or to attempt the most obvious reforms in the Medical Council. No one knows better than Sir LYON PLAYFAIR that the system of medical graduation has been most seriously disparaged of late, justly or unjustly, and that a proper Medical Bill should provide means for satisfying public and professional opinion as to its nature, as well as the sufficiency of the minimum examinations. But his Bill leaves the examinations of universities untested, save as to their being severe enough to imply mere professional competence in those who pass them. These are things that the Bill fails to do. What it positively accomplishes is to place the profession in an unprecedented degree under the rule of the Privy Council—to enable the Privy Council to compel the Medical Council to recognise foreign diplomas of which it disapproves; to enlarge the Medical Council by the addition of four direct representatives of the profession, who will find themselves confronted with twenty-four "old hands" in the Council, ready to uphold all its circuitous impotency for good, and all its ability for spending the scanty money of the profession without advantage. There are some medical reformers who are so enamoured of the idea of direct representation that they will support any Bill which grants this, in however delusive and ineffective a form. It will be curious to see if they will buy this concession at the great cost of the rule of the profession by the Privy Council. They will find that the author of this Bill has such a poor opinion of the Medical Council which is to be created by the Bill, that at every turn it is made to require the sanction of the Privy Council, or rather of two lords of that honourable body. We cannot ask for a more severe condemnation of the Council or of the Bill. The Bill of 1858 mentioned the Privy Council nine times. In this Bill it is quoted as a ruling authority between forty and fifty times. We are not prepared to purchase direct representation at such a cost. We do not suspect Sir LYON PLAYFAIR of any wish to harass or degrade the profession; but he cannot answer for his successors, who might be two eclectics or globulists, or patrons of bone-setters, who might override the Medical Council in the interest of their *protégés*, as it is to be dominated by the present Bill in the matter of unsatisfactory foreign diplomas. It would be far better to give the Lord President or the Vice-President a seat in the Medical Council, than to subject its chief actions to the will of the Privy Council.

PROFESSOR HUXLEY is among the prophets, and, like them, according to his idea of prophets and their work, he is "constantly striving to free the moral ideal from the stifling embrace of the current theology and its concomitant ritual." Why is this? As a scientist Professor HUXLEY is, of course, an agnostic. This is a necessity of his position *as a scientist*. Science does not know anything about the subject matter of religion. As a man, apart from his science, it is competent to Professor HUXLEY, as to every other intellectual being, to believe or disbelieve what he pleases. Are we, then, to understand that the Professor undertakes to expound the evolution of theology as a scientist or as an ordinary thinker? It is important to get at the truth about this, because if it is as a scientist the Professor writes, his propositions and reasoning must be tried by science; whereas, if he writes as an ordinary thinker, he is as much at liberty to indulge in speculations as is any other individual. It is only fair that Professor HUXLEY should tell us plainly in what light we are to regard him. As the matter now stands, we fear that, while on the one hand some simple-minded or careless reader may be misled by the impression that what the Professor has to say must needs be right and true because *he* says it, not a few who admire his strictly scientific work will be scandalised by the loose and illogical character of his speculations in theology.

The result of Professor HUXLEY's two papers on the "Evolution of Theology" is *nil* in a scientific sense. This must be admitted by all, even including those who agree with him. He has not advanced the inquiry one step in any true sense. The most he has accomplished is to raise a doubt in the mind of the reader whether the Professor himself really knows what he means by evolution. Judged from a scientific standpoint, it would not be unfair to describe Professor HUXLEY's lucubration on the "Evolution of Theology" as an awkward attempt to apply the principle of progressive development without any practical recognition of the cognate and inseparable principle of development by the environment. Because the Professor finds certain similarities of thought and aim in association in otherwise differing systems, he jumps to the conclusion that these several systems must needs have been evolved from that same original, wholly forgetful of the fact that similar surroundings must necessarily call out or evolve like, or more or less closely resembling, qualities from essentially different stocks. The outcome is mainly dependent on the compelling force of the environment. This is how species is developed. If the principle of development by the environment is to be subordinated to that of progressive evolution from an original, then the whole philosophy of the Darwinian method falls to the ground. Surely Professor HUXLEY must see this; and if he does, it follows that the discovery of certain similarities in the habits of thought, and the intellectual aims—so called—of diverse religions cannot be accepted, and ought not to be paraded, as evidence of a common origin. This fault—for as such we must regard it—of Professor HUXLEY's method in the treatment of his subject places it wholly outside the boundaries of the scientific, and renders it difficult, if not impossible, for us to discuss it.

Meanwhile, how are we to explain Professor HUXLEY's engrossment with this subject? When a man is satisfied in his own mind as to the truth or falsity of a theme or series of propositions, he is content to rest on his conviction, so far at least as his own intellectual consciousness is concerned. If Professor HUXLEY were a professional theologian, we could understand that it might seem to him necessary to keep himself and his views in evidence. Or if he were concerned to promulgate a new faith, we could see the reason why he should busy himself with the polemics of religion. But as at most he is only an image-breaker, and has nothing to set up in the place of what he destroys, we must confess ourselves at a loss to account for his activity. There have been such outbursts of mental energy as have

taken the form of almost passionate endeavours to re-establish crumbling convictions on firmer foundations. Is it in this light the "Evolution of Theology" is to be read? If so, we could wish that the frank spirit of truthfulness which has so greatly distinguished Professor HUXLEY'S career in science had also characterised his excursion into "theology," and that he had more candidly designated his latest lucubration by some title which would have told the story of his effort and presented it in its true character as an attempt to patch up a leaky craft in whose seaworthiness even its owner has begun to lose faith. We respect the honest doubts of any man, but when a doubter becomes dogmatic and strives to deepen his own disbelief by creating distrust in other minds, with no better materials and methods of reasoning than are set forth by Professor HUXLEY in his articles on the "Evolution of Theology," our respect is not enhanced, and we incontinently fall to wondering why a man of vast intellectual resources and altogether exceptional ability should thus disport himself.

PROFESSOR BOUCHARD, whose name is well known in connexion with original views on gout, rheumatism, and other diseases of nutrition, has lately investigated the interesting question of the poisonous character of normal healthy urine, and given the results of his researches to the Academy of Medicine of Paris. The question is at all times an interesting one, but perhaps more so at the present moment on account of the battles which are taking place in the Academy between the microbists and the anti-microbists, since any fact proving the poisonous character of the products of healthy metabolism will be hailed by the latter with delight.

The Professor commences by showing how substances which are indispensable to the healthy functions of the body may, when present in excess, merit the title of poisons, and no better example can be given than that of oxygen. It is undoubtedly indispensable, but when present in excess it kills by convulsions. In the same way, water, chloride of sodium, chloride of potassium, and other bodies, when present in excess of a certain proportion, produce death; so that the body of a man may be regarded as penetrated by various poisons introduced from outside or formed within, each of which has its particular route of elimination or is destroyed by intra-cellular oxidations, or is arrested and destroyed by the liver. Though we cannot determine the exact amount of poisons which may be in the body at a given time, we can determine the degree of toxicity of those which are eliminated by the various emunctories; we can determine what mass of living matter (always of course using the same kind of living matter) can be killed by the products eliminated by each organ of excretion; and we can form a unit of toxicity or "toxie," for the sake of comparison, by taking the amount which is necessary to kill a kilogramme of living matter. In this way we can determine what quantity of toxic units is eliminated in a given time by the kidneys, skin, intestines, and liver. M. BOUCHARD commences the study with the urine.

The poisonous nature of normal urine has been known since 1881, when it was studied by MM. FELTZ and RITTER, and again by Professor BOUCHARD in 1884. The first effect to be observed after an intravenous injection of from 10 to 15 cc. is a contraction of the pupil, which may become pin-point in size; the breath movements are much increased in number, but diminished in extent; movement is undecided and feeble; the secretion of urine is much increased, and the temperature is lowered, owing to a diminution of calorification; reflexes are abolished, and coma sets in, ending in death without convulsions, except slight muscular spasms. If now we try to determine the "toxie," or in this case the "urotoxie"—that is, how much urine is necessary to kill one kilogramme of living matter,—we meet with various numbers, depending partly on the state of dilution of the urine, but 45 cc. may be taken as the average. From this may be calculated the urotoxic coefficient of man—"that is to say, the quantity of 'urotoxies' which the unit of weight fabricates and eliminates in the unit of time. An adult healthy man eliminates in twenty-four hours, for each kilogramme of his weight, a quantity of urinary poison capable of killing 465 grms. of living matter. His urotoxic coefficient is then 0·465." From which it may be calculated that it takes a healthy man two days and four hours to manufacture sufficient poison to intoxicate himself. But, as was stated before, the toxicity of the urine varies from time to time and under different circumstances, and its properties were found to differ according to the state of waking or of sleep. During sleep less urine is excreted, but it is more concentrated, and accordingly it might be thought that the urine of sleep was the more toxic, but this was found not to be the case; the urine of sleep was less poisonous than that of waking. In eight hours of sleep a man eliminates from two to four times less urinary poison than during eight hours of waking. It must not, however, be concluded from this that sleep hinders the elimination of the poison. The period of minimum toxicity is just before sleep, and this then gradually increases till at the moment of waking it is five times as toxic, and eight hours after attains its maximum, which is nine times as great as the minimum, from which point it rapidly falls in eight hours to the minimum, to a new period of sleep. This difference in the characters of the urine may be partly explained by the fact that digestion takes place during the hours of waking, which might introduce into the urine an increased quantity of potassium or alkaloids associated with peptonisation, or the toxic matters of the bile; but that this can account for the totality of the difference is impossible, because the time of minimum toxicity would be at the moment of waking, instead of just before going to sleep. Moreover there is a qualitative difference as well as a quantitative; the urine of sleep has a convulsing, the urine of waking a narcotic, action; the one produces muscular spasm, the other sleep; so that, viewed in this light, the body produces during waking substances whose accumulation tends to produce sleep, and during sleep substances which act on the muscular substance, producing contraction and waking. And, further, the one kind of poisons is antagonistic to the other, so that if the urine is mixed in quantity proportionate to the amount eliminated, the product is not the mean between the two, but is considerably less. The toxicity is two-thirds of the sum of the separate toxicities.

IT will be recollected that the Royal Commission on the Housing of the Working Classes pointedly referred to the

failure in administration of sanitary laws in the metropolis, and remarked that "what at the present time is specially required is motive power, and probably there is no stronger motive power than public opinion." They recommended, therefore, that the Secretary of State should be empowered to appoint competent persons to inquire as to the immediate sanitary requirements of each district, having regard to the several powers entrusted to the local authority, whether the Metropolitan Board of Works or the vestry or district board; that the local authority should be empowered to nominate members of their own body to act with the officer so appointed, and that the reports of the results of such inquiries should be transmitted to the local authorities, and also should be laid before Parliament. Mr. GOSCHEN and Mr. LYULPH STANLEY were of opinion that this proposed survey of the whole of London, if made at all, should be undertaken on the responsibility of the new London Government, "to which the execution of the action which may have to follow such a survey will certainly have to be left." It was therefore evidently intended that this survey should be very thorough in its character, and should, we presume, be carried out on such lines as those followed by the officers of the Local Government Board.

It is with much regret that we find that the inquiries now being held by Mr. CUBITT NICHOLS very largely fail to carry into effect the apparent intention of the Commission. In our issue of the 3rd instant we expressed regret that the inquiry of Mr. NICHOLS into the sanitary condition of Clerkenwell was not more comprehensive, and although we thought it would give an impetus to sanitary work, we noted that many important points in the condition of the district had not received attention. This opinion is emphasised by a further report which has just been issued concerning the hamlet of Mile-end Old Town, and which deserves serious attention, for it contains in a more marked degree the shortcomings of the preceding report, and it may be accepted that the method of inquiry which is adopted in respect to both districts is that which will be applied to the rest of the metropolis. The inspector appears very much to have confined his observations to certain complaints which emanate from the Mansion House Council; this body is conferring a great boon upon London by its philanthropic efforts to stir local authorities into action, and is deserving of the warmest commendation, but we are unable to understand how this Council comes to be almost the sole means by which an inspector appointed by the Secretary of State receives his information. That it is so there can be no manner of doubt; for we find in the inspector's report the extraordinary statement that Mr. NICHOLS does not consider the hamlet to be in a bad sanitary condition, as the total number of houses reported by the Mansion House Council is but 508, or about 5 per cent. of the houses occupied either as lodging or tenement houses. There is not in the report a particle of evidence to show whether the Mansion House Council themselves profess to have made a complete survey of the whole hamlet; but even if they had undertaken this self-imposed duty, we fail to understand how a self-constituted authority has come to take the place of an investigator, who should not only possess all the technical knowledge which is required of a medical inspector of the Local Government Board, but have some authority from the State itself to make such inquiry.

We are forced to the conclusion that a course is being adopted which is very different from that intended by the Commission, upon whose recommendation these inquiries are being held, and that the Home Secretary has entirely failed to appreciate the meaning of a sanitary survey and its relations to the health requirements of a community. We are convinced that the error which is now being committed will be disastrous to the health interests of the metropolis, for the reports which are being issued as Parliamentary returns will carry with them all the weight which attaches to documents emanating from the Home Office, and will give an impression far different from that which would result from investigations conducted on other lines. We do not for a moment desire to imply that any other course than that adopted is open to any inspector, however able, if he lacks the medical knowledge of the kind required; but we are not the less sure that a sanitary survey of a district which is presumably intended to deal with the whole of the conditions affecting the health of its inhabitants, whether these conditions are subject to the control of a vestry, the Metropolitan Board of Works, or any of the other authorities having jurisdiction within the area, cannot be replaced by an inquiry whether the statements of a voluntary association are well founded. Such a survey requires primarily a considerable technical medical knowledge and detailed acquaintance with the health requirements of London. We sincerely hope, before further action is taken under the recommendations of the Royal Commission to which we have referred, that the Home Secretary's attention will be directed to the necessity of a complete alteration of the method of procedure, and to the advisability of introducing skilled medical experience into the investigation.

IT was with great pleasure that we were able last week to publish the result of the quarterly meeting of the Council of the Royal College of Surgeons, indicating as it appears to do the commencement of a more enlightened mode of treating the questions of reform now agitating the Fellows and Members at large. The chief of these questions, which have hitherto been received in a spirit of dogmatic opposition, have at last been discussed on their merits, and it is not surprising, as a result, that a very different view concerning them is now promulgated by the Council. Concerning the most important of these points—the representation of the Members of the College in or upon the Council,—the Council now recognise "the gravity of the question," as well as "the advantage of uniting in harmonious relationship all the constituent elements of the College." A more important admission could not be wished for, and we much thank the Council for it on behalf of the Members at large. Such a deliberate expression of opinion will give great encouragement to those who are working in the cause of this necessary and equitable reform, and cannot fail to aid in the settlement of the questions in dispute. Notwithstanding this admission, however, the Council still retain the opinion already expressed by them, "that

it is not desirable to diminish the privileges of the Fellowship by depriving Fellows of the exclusive rights of electing to the Council and of being eligible to become members thereof." While entertaining this view, it is only consistent on their part that they (the Council) should decline *to initiate* "proceedings for making any organic change in the constitution of the College which would impair the present status of the Fellows, by whom alone they have been elected to office." The Council, however, indicate not only the method to pursue in order to bring about the desired alterations, but assert also their willingness to give careful attention to any jointly authorised scheme of reform, approved by a majority of the Fellows and Members, which may be submitted to them. The initiation of a scheme of reform must therefore emanate from those who desire reform. The Council merely carry out the provisions of the Charter, and as a Council have no power to make alterations. We should be the last to find fault with the position which the Council now take up, as enunciated in their latest proceedings. Had a similar spirit prevailed two years ago, much unnecessary delay and ill-feeling might have been spared. *Mieux vaut tard que jamais.*

The "bipartite"—the academical and the political—character of the Fellowship is brought into special prominence by these last official utterances of the Council. Nominally founded "in order more effectually to promote and encourage the study and practice of the art and science of surgery," the Fellowship carries special privileges apart from the promotion of surgical science; and the Council seem more jealous of the political character than of the academical; they seem unwilling to lessen the political privileges, or to abate one jot or tittle of advantage which their exclusive possession seems, to their mind, to convey. On the other hand, as regards the *academical* status of the diploma the Council seem less mindful; they have from time to time lessened the severity of the purely academical tests, with a view to secure a larger number of applicants, while at a late meeting not only did they decide to elect a certain number to the Fellowship every year without any academical tests whatever, but they further proposed that Members of a certain standing should be admitted after passing a very modified examination. The question naturally occurs, Will the representation of Members of the College on the Council "impair the present status" of the Fellows? In other words, will privileges, at present enjoyed solely by the Fellows, be lessened in value, not by curtailing them, but by extending them to Members? We confess ourselves unable to see what the Fellows will lose, and therefore in what manner their present status will be impaired. On the other hand, we *do* think that any large increase in their number by methods other than the ordinary scholastic tests will lessen the academical distinction appertaining to this diploma. We would rather see justice rendered to the Members of the College by granting them corporate rights as such, than that the academical status of the Fellowship should in any way suffer, or the professional position of its holders be at all lowered, as it naturally will be by becoming year by year less select.

It now only remains to submit to the Council "a detailed plan," formulated by the two bodies mutually interested in the question—that is, presumably the Associations of Fellows and Members of the College,—embodying the changes which must be made in the present Charters by means of which political privileges shall be conferred on the Members. This is in accordance with the advice we offered in former articles. We would again impress this view on the two representative Associations. It is quite clear that for purposes of legislation the Associations will have to work together. The sooner this scheme of reform, which it is but right to mention has been formulated by the Association of Fellows, is drawn out and submitted to general criticism the better. It will probably have to be amended before it assumes a permanent form. The Council at length promise any such authorised scheme a fair field, and to discuss it themselves, as well as to submit it to a general meeting of the Fellows and Members.

On the whole, therefore, the prospect of reform at the College of Surgeons seems more hopeful than at any former time. It behoves those who have taken on themselves the laborious and irksome task of promoting and carrying out these reforms not to hesitate. We can only hope that the Fellows at large will appreciate the gravity of the question of the representation of Members, and the advantage of uniting in harmonious relationship all the constituent elements of the College. We would wish them to be liberal as regards what we have called the political aspect of the reform, and advise them to make a stand for the more purely academical exclusiveness of their order. As regards the Members, they must show themselves in earnest, and in sympathy with the proposed changes, by joining the Association in large numbers, and by communicating their views if unable to be present in person. We look forward to the realisation of this reform with no small anticipation, being convinced that it will prove advantageous, not only by raising the status of the individual practitioner, but by cementing into one solid body the somewhat antagonistic elements of which the College is at present composed.

Annotations.

"Ne quid nimis."

THE CROONIAN TRUST.

THE Royal College of Physicians is still in difficulties with regard to the disposal of its suddenly increased wealth under Dame Mary Sadlier's bequest. The scheme of the Council, which in May last was with several amendments thereto referred to a Croonian Trust Committee, has quite disappeared, and on Monday last a new scheme was submitted to the Comitia. Its chief provisions are the appointment of a Croonian lecturer, required to devote his lectures (not less than three and not more than six) to the discussion of "one or more subjects in anatomy, physiology, and pathology, in their bearing on therapeutic science, with a view to the more efficient prevention, control, and cure of disease." For these lectures he is to be paid half of the income of the Croonian Trust, which will in future amount to upwards of £200, and the remainder is to be devoted to "payment for such original researches or inquiries as may appear to the College to be most urgently called for." We fail to see how a bequest for promoting the study of anatomy can be legally transferred to therapeutical science, even if we

grant that there be such a science. Moreover, this scheme will, in effect, throw a large sum of money (£100) annually into the hands of juniors making researches in pathology and therapeutics, the bearing of which on the control and cure of disease may remain an unknown quantity for many years after the publication of their researches. Grants for original research and inquiry are given now by the British Medical Association, the Royal Society, and the Grocers' Company, and we doubt the advisability of the Royal College of Physicians devoting a moiety of the Trust to a similar purpose. The present Croonian lecturer is kept in no such narrow limits as this scheme proposes; he is always a physician of mature standing and clinical experience, and we greatly prefer the continuance of the existing system, or one on similar lines, to that suggested by the Committee. The ripe views and observations of a good clinical physician are well worth paying for, and are always at the command of the College. We are pleased to know that this scheme has fared no better than its predecessor, that Dr. Bristowe has proposed an alternative one more in accord with the views expressed above, and that the consideration of both of them, after they have been printed and circulated among the Fellows, has been deferred to a future occasion.

THE COCCI OF CROUPOUS AND HYPOSTATIC PNEUMONIA.

DR. LEBASHOFF publishes in the *Russian Weekly Clinical Gazette* an account of some observations made with a view to determine the frequency with which microbes are present in cases of croupous and hypostatic pneumonia. He examined sections, the liquid contained in the lungs, the contents of the smaller bronchi, and also the fluid of the cerebral ventricles, and in some cases the blood from the heart and large venous trunks. The ordinary methods of staining not being very satisfactory, the author undertook a series of observations for the purpose of improving upon them, and found that the best method of staining lung sections was to immerse them for from two to five minutes in an aniline solution of gentian violet, and afterwards for from four to fifteen minutes in an aniline or watery solution of eosin, then to wash them and dry them with alcohol, and finally to treat them with clove or cedar oil. By this method of staining the micro-organisms could be seen to be distributed in a very irregular way, usually in groups. The cocci found in the centre of a lobulus always preserved their ordinary form, and were strongly stained; while single cocci towards the circumference were often hardly to be distinguished, being but slightly stained. While some of the cocci presented a distinct envelope, others apparently of the same variety were seen close to them without any envelope at all. The size of the pneumococci was not constant, this being perhaps due to the manipulations the sections had undergone in preparing them for examination. The cocci seen by the author entirely corresponded with those described by Friedlander. Altogether there were examined forty-eight cases, forty-one of croupous and seven of hypostatic pneumonia. In the latter class of cases it did not seem that any characteristic cocci were constantly present, while in the forty-one cases of croupous pneumonia Friedlander's cocci were found in the lung tissue in thirty-eight cases. In eleven of these the fluid of the cerebral ventricles was also examined, cocci being found in eight. In the earlier stages of the disease the number of cocci was small; this gradually increased, attaining its maximum when red hepatisation was changing into grey. The blood was examined in twelve cases, but no pneumococci could be discovered. The observations were carried on by cultivations in jelly and inoculations of animals. For cultivations in jelly the liquid from the lungs, the blood and the fluid of the cerebral ventricles were used. Two kinds of colonies were met with. One kind was obtained after inoculation not only of pneumonia but of other diseases, and of putrescent blood. The second kind differed from these in being of a dull white without any admixture of grey, and in being distinctly raised above the surface of the jelly. This kind was only observed after inoculation from croupous pneumonia. From ten inoculations with pneumonic lung juice these colonies were obtained eight times; five inoculations with ventricular fluid were twice successful, and three inoculations with blood only once. Experiments with mice showed that when these animals were inoculated from colonies of the second kind they developed croupous pneumonia, and in one case out of three in which the greyish cocci were inoculated croupous pneumonia also followed. The author remarks that further observations are necessary on this subject, since mice are very subject to croupous pneumonia, and it is possible that numbers of other micro-organisms may have the power of setting up the disease in them.

DRAINAGE OF THE OXFORD VALLEY SCHEME.

IT is a matter of regret that the important scheme for the drainage of the Oxford Valley should have come to a standstill. The original cause of the stoppage was the fear of the Oxford Water Company that the removal of the Iffley lock, one of the proposed alterations, would injure the water-supply. This difficulty, however, had hardly been overcome when a fresh objection was raised—viz., that the removal of the lock would drain the ditches and watercourses of the neighbourhood which now serve as boundaries. A fresh scheme was then proposed, by which it is intended to reconstruct the lock without altogether removing it. This plan, although beneficial for agricultural purposes, will not, it is thought, satisfy the sanitary requirements of Oxford, besides which it will be more costly. Now, as a considerable sum had been guaranteed both by the University and the city of Oxford for the original scheme of the commissioners, they naturally demur to subscribe to a new scheme, which will be more costly, and, as they believe, less effective. It is to be hoped, however, that some arrangement may be effected by which the original scheme may be carried out, since it is most important for the sanitary interests of Oxford that the flood water of the river should be rapidly carried off. We cannot help thinking that the damage likely to be caused by the removal of the Iffley lock has been greatly exaggerated; at all events, the experiment might be tried. If all the evil consequences predicted occurred, why then it would be easy to reconstruct the lock in the way now proposed; nor would this cause much additional expense, since in any case the lock would have practically to be almost entirely removed before it could be reconstructed. The fact that all the engineers consulted are in favour of the removal of the lock is a strong recommendation to give this plan a trial before proceeding directly with the work of reconstruction.

INCAPACITY OF JURYMEN TO SERVE.

AN adjourned inquest was recently held at the "George Inn," Bathampton, before Mr. Craddock, coroner, touching the death of Jessie Louisa Hill, aged forty-four. The deceased lady had suffered from nervous depression for some time, and, according to the finding of the jury, had ended her life by drowning during a fit of temporary insanity. The case is of interest to the medical profession in consequence of the course taken by the coroner in the matter of a certificate which had been given by Mr. Heygate, surgeon, to the effect that a juryman was unable to attend the inquiry in consequence of an attack of acute dyspepsia. The coroner, for some reason or other, seemed impressed with the idea

that the malady in question was not grave enough to excuse the absence of a juror. We are quite ready to admit that it would be well in all judicial inquiries, if, as usually obtains in the Superior Courts, the doctor certifying to the illness were required to state his opinion on oath. This was done on Monday last in the Central Criminal Court at the trial of the case Reg. *v.* Bartlett, where Dr. Broadbent went into the box to testify to the inability of Dr. Green to give evidence on account of illness. In this instance no question was asked as to the nature of Dr. Green's complaint, and rightly so, for it is not the province of the Court to inquire into the ailments of a witness or juror unless there are grounds for supposing that the doctor is not acting *bonâ fide* in the matter. It would have been better had Mr. Heygate been present at the inquest to support his certificate on oath; at the same time, we are at a loss to understand why the coroner should have considered *acute dyspepsia* an insufficient excuse for the non-attendance of the said juror. The term dyspepsia, like many others in common use, merely expresses a symptom or series of symptoms which may have for its cause some simple error in diet, an irritant poison, or an acute specific fever. But, from whatever cause arising, it certainly is not conducive to strict and close attention to the detailment of facts, and the formation of an impartial judgment upon the facts. Undoubtedly a considerable amount of inconvenience was caused by the absence of the juror, although, as we think, unavoidably; but a little tact would have served to ease off the friction which unfortunately took place. We advise medical men, whenever possible, to attend in person and give their opinion on oath.

EMBOLISM OF THE AORTA.

DR. VINCENZO CAMMARERI of Naples has published a memoir upon Obliteration of the Abdominal Aorta, which is summarised in *Le Progrès Médical* (No. 13). He has collected all the cases on record, starting from Barth's case in 1835 and Romberg's ten years later. In the majority the cause is embolism proceeding from the ventricle, the embolus being arrested at the bifurcation of the aorta, and leading to secondary thrombosis extending upwards—rarely above the level of the renal arteries,—and downwards into the iliac arteries and their branches. The event is marked by the sudden appearance of complete and painful paraplegia. The sphincters are generally unaffected. Sometimes there is tetanic rigidity of the lower limbs; the reflexes and sensibility are abolished. Often in addition there are other symptoms—as hæmaturia, ischuria, suppression of urine, rachialgia, acute decubitus, &c. Whether a fatal result occur rapidly or not depends upon the extent to which the vessel is obliterated; in some cases, owing to partial obstruction or to a certain amount of collateral circulation, life has been prolonged for several weeks, or even months. The paraplegic symptoms have been ascribed by some to anæmia of the muscles, by others to anæmia of the cord; but the writer demurs to the latter explanation, except in cases where the coagulation has extended high enough to block the lumbar arteries; but even here he thinks the paralysis may be explained by interference with the muscular nutrition. Experimental ligature of the lumbar arteries in the dog produces paresis of the hind limbs, but the paraplegia equally follows the infliction of the wound without ligature. The author then explains the muscular paralysis following upon obstruction of the aorta as being due to the absence of oxygen and the presence of an excess of carbonic acid in the tissues. In like manner he explains the absence of reflexes; whilst the occurrence of muscular rigidity in some cases is compared with cadaveric rigidity—attributable, that is, to coagulation of myosin, and not to over-excitability of the muscle. The same "asphyxial" condition of the tissues is held to account for the anæsthesia, whilst the symptom of pain is attributed to irritation of nerve fibres from the presence of products of disintegration, the nerves being rendered excitable by imperfect anæmia or collateral hyperæmia. The lowered temperature, œdema, and gangrene are easily explicable by the stasis that is established, and the supervention of syncope from cardiac paralysis may be due to heightened arterial tension. The frequency with which aortic embolism is associated with mitral stenosis does not appear to be insisted on; but it is easy of explanation, since it is especially in such cases that thrombi sufficiently large to block the vessel are found in the auricle.

THE TOTTENHAM SANITARY ASSOCIATION.

THIS Association was formed twelve years ago in order to enable those amongst the inhabitants of the district who were interested in the subject to guide those concerned in some special matters connected with the administration of the laws relating to health; and although the work of health authorities has materially changed since its constitution, yet the Association still finds useful work to do. The report now issued is mainly a statistical one. It shows the present population of Tottenham to be 74,969, and it is striking to note that the number of unoccupied houses is 2338, or 15·5 per cent. of the total. But no less than 1659 new houses were erected in 1885. The death-rate for the year was 15·8 per 1000—that is to say, it is much the same as that prevailing in the twelve suburbs with which comparison is yearly made by the Association. Of the deaths from infectious fevers, there were no less than 63 from diphtheria, and the increasing fatality from this disease is very properly regarded by the Association as calling for the very earnest consideration of the sanitary authority and of the medical officer of health. The diphtheria deaths in the four years 1876-79 averaged some 5 per annum; in 1880 and 1881 they reached 10 and 20 respectively, and in the four years ending 1885 the numbers have been 27, 34, 48, and 63. When once diphtheria is recognised to be locally prevalent, deaths from that disease, which were formerly put down as due to other causes, are more correctly registered, but this alone cannot account for what must be regarded as a very serious feature in the recent sanitary history of Tottenham. Mr. R. D. R. Sweeting inspected Tottenham on behalf of the Local Government Board, during 1885, on account of this prevalence of diphtheria, and it is to be hoped that the recommendations which were appended to his report will be acted on. These recommendations aimed at removal of all obvious causes of disease, and it may fairly be anticipated that action in the sense they indicated will operate beneficially as regards diphtheria, as well as the general health of the district.

DRUNKENNESS AS AN EXCUSE FOR CRIME.

PERHAPS it would be more correct to say drunkenness as a negation of crime, for if there be crime there must needs be responsibility; whereas if there be no responsibility there cannot possibly be crime, the criminality lying in the progressive nature of the act, not in the act itself. This being understood, the question arises how far drunkenness absolves from responsibility. Dr. Savage of Bethlem discusses this topic in an interesting paper which appears in the *Journal of Mental Science* for April. There can be no question as to the responsibility of a person who knowingly places himself in a condition to do wrong unconsciously. The criminal act of getting drunk covers all that is done by the self-intoxicator; but questions arising in connexion with accidental drunkenness, or the permanent effects of drunkenness and hereditary demoralisation by drink, render the general issue extremely complicated. Practically

we think it should be understood and laid down as a principle that self-intoxication does not negative responsibility, and that the only question of extenuating conditions must take the form of an inquiry whether inheritance or disease rendered self-intoxication so abnormally facile as to justify the belief that the act of intoxication was unwittingly accomplished. The paper by Dr. Savage will repay perusal.

EFFECTS OF AN EXTENSIVE FRACTURE OF THE SKULL.

A CASE of extensive wound of the skull and brain is reported in the Russian *Herald of Forensic Medicine*. The patient was a man who had been struck by a piece of an anvil of about seven pounds' weight. The wound extended from half an inch above the concha of the left ear to the right parietal eminence. The fracture of the skull corresponded in length and position with the external wound. In many places it was splintered, the posterior edge of the fracture being raised above the level of the anterior edge. The whole wound was filled with crushed brain-substance, partly grey and partly white. There was both motor and sensory paralysis of the right arm. The power of sensation in the right leg was diminished; the pulse was 80 and the respirations 20; the temperature was also normal. The patient was fully conscious and in a peculiarly placid state of mind, being pleased with everything. He forgot, however, a number of abstract nouns and all proper names; his memory for numbers was also affected, and he had forgotten how to read. The wound was dressed with antiseptic bandages, and completely healed in fourteen weeks. During this time ten splinters were removed. The symptoms of amnesic aphasia gradually passed off. The memory for abstract nouns returned in about a fortnight. The placid humour passed away, and the man became decidedly irritable and suffered from insomnia and headache. The paralysis of the leg passed off during the first few weeks. Sensation returned in the arm and movement also, and after three months contraction occurred. After the lapse of eight months the man was still unable to read, and complained of constant headache and great feebleness of memory.

IS BOAT-RACING INJURIOUS?

THE annual contest between Oxford and Cambridge for aquatic supremacy proved this year to be one of unusual severity, and two, if not three, men in both crews towards the end of the race showed evident symptoms of distress. This fact has led to some sensational statements being made to the effect that some of the men will never get over the consequences of their exertions. We believe, however, that such statements have no real foundation, and, beyond the fact that the men were temporarily distressed, nothing like permanent mischief is likely to result. Some years ago, before the conditions of training were thoroughly understood, such rumours were frequent after each great boat-race, and even very eminent medical authorities set their faces steadfastly against boat-racing as an exercise. But a close inquiry into the after-history of the crews of the Oxford and Cambridge boats has proved conclusively that the mortality among the heroes of the annual race is certainly not greater than among the average of University men generally. The names of Sir Balliol Brett, Bishops Wordsworth, Selwyn, and Macdougall, Dean Merivale, Hon. G. Denman, J. M. Croker, and F. M. Arnold are well known as those of members of victorious crews more than forty years ago, who have survived up to quite a recent date—indeed, some are still living; and to these may be added names, less known to fame, who were still able to answer *Adsum* when the roll was called a few years since. Sir George Burrows, who is still living, has told us he took part in one of the earliest of the College races on the Cam, quite fifty years ago; whilst Lord Penrhyn, who has just died at the advanced age of eighty-six, was a member of a crew who in 1824 performed the extraordinary feat of rowing, with five others, from Oxford to Westminster Bridge within sixteen hours, a distance of 118 miles, with many locks to pass through, in one of the heavy wherries and with oars of the period—a performance far more severe than rowing a four-mile race: for, with a heavy six-oared wherry, they had to keep up the pace continuously, except at the locks, for sixteen hours, at eight miles an hour; whilst, with light outriggers, sliding seats, and improved oars, the pace of the racing eight is little over twelve miles an hour for twenty minutes. A reason in favour of boat-racing as an exercise is the fact that the progress from ordinary to severe exertion is made very gradually. The tyro who first commences to row has to learn first to manage his oar; as soon as his muscles get accustomed to the weight, he is taught to bring his whole muscular system into action to propel the boat; but this has to be done gradually, otherwise he will acquire awkward habits. As soon as he has learned to row he begins to cultivate pace, but this has to be practised cautiously, since if allowed to "blow" himself he will soon row out of form; and it is only by degrees that the bursts are lengthened as the "wind" improves. Next, after considerable preparation, come the "trial" races, in which the men's physical and staying powers are closely watched; and then comes the final selection into the crack crew. The result is, that an unsound man is usually found out long before the severe trial comes; whilst, for sound constitutions, a course of systematic and careful training tends to improve the physical and vital powers, and fits men to undergo the strenuous exertions of a boat-race without injury.

DOCTORS' DOOR-KEEPERS.

WE must confess to a strong persuasion that, as a rule, it is better for a "doctor's door-keeper" to be a male than a female. An exception may be made in favour of women servants in attendance at the houses of certain specialists—for example, the gynæcologists; but, speaking generally, we think it is more decorous that the door should be opened by a man than by a woman, looking to the mixed character of the gathering in most waiting-rooms, and the service which has not unfrequently to be rendered to those who are infirm or weakly. As to the idea put forth by a contemporary that doctors' door-keepers are "got up" to look impressive—that, of course, is absurd. Opening the door to a considerable number of sickly-looking folk, for the most part accompanied by friends with anxious countenances, is not an inspiriting occupation, and it is scarcely to be expected that the doctor's door-keeper will wear a particularly jovial expression, but it should suffice that he is respectful, self-possessed, and well-behaved, and if these qualities can be secured both doctor and patient may well be satisfied.

"THE DOCTORING OF THE POOR."

UNDER this heading the *Echo* of April 5th contained an article which proposed the establishment of the local doctor as the parson is established, making him accessible to all. So far as the Poor-law service is concerned, this is already done to the extent which public and social prudence seems to render reasonable. The class a little above the pauper is fairly well provided for at the dispensaries and the out-patient rooms of hospitals. We must confess to thinking that a great deal of weak sentiment is expended on the subject of doctoring the poor. The "poor" are, on the whole, better cared for in respect to their medical necessities than the classes a little above them. The real difficulty of

the day is how to provide efficient aid in sickness for those who when they are in health support themselves by honest industry, but who when they are stricken down by disease are not only themselves helpless but place their belongings on the brink of pauperism, and this through no fault or wrong-doing of their own. These deserve our deepest sympathy, and their necessities call for a remedy which it is difficult to devise.

SIR HENRY PITMAN AND THE MEDICAL COUNCIL.

SIR HENRY PITMAN has resigned his office as Representative of the Royal College of Physicians of London in the General Medical Council. Sir Henry Acland is understood to be in the East, and there is no immediate prospect of a meeting of the Council. Sir Henry Pitman's object in resigning at present is to give the College ample time to choose his successor. It will not be easy for the College to find a representative so efficient. Sir Henry Pitman's knowledge of College affairs, his good judgment in professional and medico-educational questions, and his long experience, are qualities not easily acquired. To the Council his loss will be almost greater than to the College, for, in addition to the above qualities, he had a faculty for work and business which made him most valuable as chairman of the Business Committee of the Council, in which capacity he did his best to develop methodical and business-like habits in the Council.

INFANT FEEDING.

THE old difficulty of bringing up children by hand received a fresh illustration at an inquest on the death of an illegitimate child at the Totnes workhouse during the past week. From the report of the *Totnes Times* of the 3rd inst. we gather that the infant in question was taken from its mother when fourteen days old. It came under the care of Dr. Hains, the surgeon to the workhouse, who suspected it to be the subject of hereditary syphilis. Dr. Hains directed that the child should be fed exclusively on milk. When one month old it was somewhat fretful, and the matron on her own responsibility ordered baked flour to be added to the milk. It appears from the report that the doctor had explicitly forbidden to the nurse in charge the use of any solid food for the infant. When fourteen weeks old the child died rather suddenly, and on post-mortem examination solid pultaceous food was found in masses in the stomach, and to the irritation produced therefrom Dr. Hains attributed the cause of death. The matron, on examination, appears to have insisted on the use of baked flour as a routine article of food for young infants, and even maintained that the extra three ounces of bread allowed by the Local Government Board (obviously for the nursing mother) might be used for the food of an infant a day old! Such an observation is hardly worth notice except as an illustration of the views of female Bumbledom; but we gladly seize the opportunity of emphasising the principle that, with all deference to the matrons of workhouses, in the feeding of infants as well as in regard to their physic the doctor's directions should be implicitly obeyed. The mere "quieting" the child, though it counts for something, is not the "be all" and "end all" of bringing it up. But, to be perfectly fair, we must face the difficulty that diluted cow's milk is often an inadequate food for infants. Although in the case in question no doubt Dr. Hains was right as to the origin of the "pultaceous bullets" found in the stomach, yet we can testify to the occasional passage from the alimentary canal of extremely hard, compact masses of solid casein due to the incapacity of the infant digestion to deal effectively with cow's milk. How to treat this idiosyncrasy, which is not so very rare, is a great difficulty when we have to do with ignorant and obstinate nurses. The fretfulness of the child causes the nurse to rush at once to some form of starchy food, which may no doubt to some extent help mechanically by leading to the diminution of casein coagula, but is in itself indigestible. Some very simple and expeditious plan of partial separation and digestion of the casein of cow's milk is a desideratum. As a useful and nutritious diluent of cow's milk we have found the time-honoured barley-water the best of all, and attended with the minimum of disadvantages. But we cannot too often insist on the perils of hand-feeding, and that the way in which many illegitimate English children are often torn at a tender age from the nourishment of a mother's breast, are fed by rule of thumb, and die without organic disease but of practical starvation, is a continual scandal.

HEALING BY FIRST INTENTION AFTER OPERATION FOR FISTULA.

DR. RUIDNOVSKI, having found that after operations for anal fistula in rural districts where there was no hospital accommodation, and where the hygienic conditions were bad, it is often difficult to get the wounds to heal by second intention, determined to make an attempt to obtain union by first intention by means of sutures. A boy of fourteen with an anal fistula was operated upon in this manner; the sinus was found to be not single, but complicated with two lateral sinuses. After the incision had been made into the gut, the soft tissue between the sinuses and the granulations were all scraped away with a Bruns sharp spoon, the surfaces of the wound being brought together by a deep and a superficial row of sutures. Opium was given, and in a week's time the dressings were removed and the wound was found to have healed perfectly by first intention.

EDUCATION OF THE BLIND IN BOARD SCHOOLS.

THE late Mr. Fawcett believed that every occupation which is ordinarily possible for people with sight may and should become possible for the blind. The right hon. gentleman was able during a not very long life to show that his courageous creed was no mere theory, but that it could be carried out with marked practical success by one possessed of education though deprived of the sense of sight. Education, however, is the indispensable qualification to all profitable advancement. That special difficulties stand in the way even of its partial attainment by the blind cannot be denied, but it is also beyond question that such impediments have often been completely surmounted; and it is probable that care and method inspired by past example will greatly lessen their power of opposition in time to come. We are inclined to think that our Education Department might realise more fully than it does this capability of the blind for receiving instruction, as well as its own comparative fitness and capacity for imparting it. Societies, endowed schools, and hospitals are understood to be charged with the culture of this outlying field, and they have accomplished, without doubt, a great amount of really good work. Such efforts, however, must needs have but a limited influence. Is there no means of contriving that a part of the machinery of the Board of Education should be utilised to supplement the efforts of these older charitable establishments? The question has already suggested itself to one of the blind themselves, Mr. William J. Day, who in a pamphlet on the subject recommends that the training of blind persons should form part of the national system of elementary instruction, and should be compulsory. He denies that any considerable departure from present usage or any need of special qualification, is implied in the necessary employment of embossed as compared with ordinary printed letters. In the general tenour of these remarks

we concur. Some inconvenience, it must be allowed, may conceivably arise from the general introduction of this plan. We might, for example, find ourselves confronted with the anomalous spectacle of one or two blind pupils in a school, and under tuition by teachers more numerous than themselves. A comparatively large district might furnish but few blind inhabitants, while of these a still smaller class —the young—would be eligible for ordinary elementary instruction. The incongruities which must result if each of these attended different schools would, however, be obviated, at all events in towns, by selecting one school in every such district, and making provision in it for blind scholars. We are not without hope that some such plan may yet be found to be practicable, and while we are unwilling to wander far from the central theme of this discussion, we venture to make the suggestion that another defect, still more difficult to treat—that of deaf-mutism,—may also some day come to be included within the widening range of the School Board administration.

CHOLERA IN BRITTANY.

THE reported recurrence of cholera in Brittany enforces the caution contained in our recent issue as to the danger which this country may have to face during the rainy season on account of cholera on neighbouring coasts. For the moment no news is forthcoming as to the prevalence of the disease on the north coast of Spain, but there can be little doubt that cholera is prevalent in certain portions of Brittany, and especially in and about Treboul. Probably the disease is of a more or less sporadic character, and hence the denials as to the existence of Asiatic cholera; but whatever form the disease assumes, it is clear that it is an affection having very near affinities to the epidemic which prevailed in France in 1884 and 1885; and in view of the communications between the coast of Brittany and our own coasts by means of fishing-boats, &c., it is important that our port and riparian sanitary authorities should be on the alert.

JONATHAN HUTCHINSON, LL.D.

THE University of Glasgow has been singularly happy this year in its selection of those whom it pleaseth to honour. We announced last week that the University had conferred the degree of LL.D. on Professor Pettigrew, and we have now the great pleasure to add that the same honour has been offered to, and accepted by, Mr. Jonathan Hutchinson, who although not an *alumnus* of that University, or, we believe, of any university, is, of all medical scholars, one of the worthiest recipients of so truly eminent a distinction.

BOARDING-OUT OF PAUPER CHILDREN.

MR. STANSFELD, in answering a question on this subject on April 9th, expressed his strong approval of this system, and said that there were 141 unions in which guardians were empowered to board-out children under duly appointed committees. He also said that a lady had been appointed to visit the children, and that her report will soon be published. We have repeatedly expressed approval of this system. It requires, however, the supervision of persons interested in the children.

THE FATE OF THE LOCK HOSPITALS.

Now that short-sighted agitators against the Contagious Diseases Acts have ridden their hobby to the death, what is to become of the nine Government Lock Hospitals, providing in all 626 beds? Are these most useful agencies in the cause of moral and physical health to be disestablished, or simply left to rot in idleness? From 1864—when the first of the Acts, now unhappily repealed, was passed—to 1870, the total number of beds available for the treatment of these special diseases was raised from 40 to 666, and mainly by the action of the Government. Unless something be done, and at once, it must be anticipated that a great and good work will be summarily arrested, to the lasting injury of the services and of the general population, and the further degradation of public morals.

SEWER AIR IN THE HOUSES OF PARLIAMENT.

THE Committee appointed to investigate the ventilation of the Houses of Parliament has hastened to report the all-important discovery that sewer air pollutes the contained atmosphere of the Houses. Great structural reforms will be indispensable for the final remedying of this grave fault; but, without waiting for this, the Committee recommend immediate measures to mitigate the evil. There ought not to be a moment's avoidable delay in adopting the course suggested. If the air of St. Stephen's be not simply unduly carbonised, but actually tainted with sewage exhalations, it is manifest that our legislators are exposed to grave perils, which cannot be permitted to exist after they have been pointed out.

INVERSION OF THE TEMPERATURE CURVE.

DR. CORIVEAUD draws attention in the *Journal de Médecine de Bordeaux* to some cases of pneumonia in children in which the ordinary temperature curve was inverted. A similar observation has, it seems, been made by Damaschino in a thesis published in 1867, as he says: "In broncho-pneumonia the evening exacerbation is not always constant. In some cases the fever is as high in the morning as in the evening; in others the morning readings are even higher than those taken in the evening." Hirtz, too, in his article "Chaleur," in Jaccoud's Dictionary, mentions that in acute phthisis the morning temperature is occasionally higher than the evening.

TYPHUS IN LONDON.

IN 1869, when the deaths from "fever" in the Registrar-General's reports were first returned under the three headings, typhus, enteric or typhoid, and simple or ill-defined, 716 deaths were referred to typhus in London. Since that date the deaths referred to this cause have remarkably and almost steadily declined, and it appears from the Annual Summary for 1885, just issued, that only 28 deaths were referred to this disease during last year in London, against numbers declining from 92 to 32 in the preceding four years, and against an average (corrected for increase of population) of 106 in the ten years 1875-84. Typhus, under the influence of more energetic sanitary administration, is undoubtedly becoming a rare disease in England, but part of the rapid decline of deaths from typhus in London in recent years is more apparent than real, for formerly a very considerable number of deaths were incorrectly referred to typhus, which was used (as, unfortunately, it was in the Registrar-General's reports until 1869) as a generic term for "fever." There is very good ground for doubting whether all the 28 deaths referred to this disease in London last year were really cases of typhus; 2 were of children under five years of age, 8 of young persons aged between five and twenty years, 4 of persons aged between twenty and forty, and 14 of persons aged between forty and sixty. It may be noted that 6 of the 28 fatal cases were recorded in the fever hospitals of the Metropolitan Asylums Board, corresponding with the number in 1884, when the total deaths referred to this disease were 32. It appears from the Registrar-General's annual summary that, after distributing the hospital cases, 8 of the 28 last year belonged to East London,

including 3 to Poplar and 2 to Whitechapel sanitary areas; 10 belonged to South London, including 5 to Camberwell and 2 to Greenwich; and 3 belonged to Islington and 2 to Hackney sanitary areas. It is noteworthy that only one fatal case of typhus belonged to Central London, where the density of population is greatest, and where the general death-rate shows so large an excess; this death from typhus belonged to the sanitary area of St. Luke's. With a view to finally stamping out the disease in London, the isolation of a larger proportion of the occurring cases is essential, and it is scarcely satisfactory to note that of the 556 deaths referred to this disease in the past eight years only 143, or 26 per cent., occurred in those hospitals. It may perhaps be assumed, however, that the remaining 413 included all those cases that were incorrectly referred to typhus.

THE ATMOSPHERE OF RAILWAY CARRIAGES.

A CONTEMPORARY expresses a preference for death by "asphyxia," to death by cold from sitting in a draught. We are not quite sure that, even granting the somewhat shaky use of a technical term, this preference is well grounded; but, however that may be, there is no sort of reason for making a selection. It is not necessary to choose between closed and open windows in travelling by rail. Nothing could possibly be easier than to ventilate a carriage moving rapidly, by a very simple and obvious contrivance of air-chambers in the roof. There need be no down draught, and certainly no difficulty exists in providing effectually for the egress of impure air and the introduction of pure air. The fact of movement overcomes the obstacle to ventilation which exists in the case of a fixed chamber.

SCURVY AFTER BAD HARVESTS.

FROM the report of the medical department of the province of Perm, in the eastern part of Russia, we learn that, owing to bad harvests in 1883 and 1884, the inhabitants suffered severely from scurvy in the succeeding years, the localities where the harvest had been the worst suffering the most. Statistics show that each year the disease began to manifest itself in the month of February, increasing in severity till May, when it attained its maximum, from which time it regularly decreased till September, when it was at its minimum.

COLONIAL EXHIBITION HOSPITAL FUND.

A SUGGESTION made by Dr. J. H. Aveling that donation boxes to collect a general fund for the London hospitals should be placed in the Colonial Exhibition, has, we learn, been approved by H.R.H. the Prince of Wales, and steps are being taken to obtain the fullest advantages from this important concession.

TOY BALLOONS.

IT seems that the little toy balloons or indiarubber bladders which children inflate with the breath may be readily reversed by inspiration and even drawn into the air passages. In two instances recently death has occurred by suffocation, a balloon of the sort being drawn into the opening of the glottis. This is a matter of danger which ought to be recognised. Parents and nurses should be on their guard.

FOREIGN MEDICAL APPOINTMENTS.

DR. C. DELYANNI has been appointed Professor of Clinical Medicine in the University of Athens. It is announced that a chair for Syphilis and Dermatology is to be established in Athens. Dr. J. Steiner has been appointed Extraordinary Professor of Physiology in the Medical Faculty of Heidelberg.

IN his report to the Registrar-General on the results of his analysis of the water distributed during the month of March by the several metropolitan water companies, Dr. Frankland states that, taking the average amount of organic impurity contained in a given volume of the Kent Company's water during the nine years ending December, 1876, as unity, he finds that the proportional amount contained in an equal volume of water supplied by each of the metropolitan water companies and by the Tottenham Local Board of Health was—Kent, 0·6; Colne Valley, 1·2; New River, 1·2; Tottenham, 1·6; West Middlesex, 2·4; Southwark, 2·5; Grand Junction, 2·6; Lambeth, 2·7; East London, 3·1; Chelsea, 3·4. The Thames water sent out by the Chelsea, West Middlesex' Southwark, Grand Junction, and Lambeth Companies contained in every case less organic matter than was present in the February, and still less than in the January, samples. The water drawn from the Lea, and distributed by the New River and East London Companies, exhibited a similar reduction in the proportion of organic matter present. All the samples were clear and bright on delivery.

DEPUTY SURGEON-GENERAL SKEEN, whose death we announced last week as having occurred on the 2nd inst., was born in 1833, and, having received his professional education at King's College, obtained in 1855 the licence of the Royal College of Surgeons of Edinburgh, and in 1859 the degree of M.D. at King's College, Aberdeen. In 1855 he entered the army, and after considerable service on the Gold Coast he was elevated to the rank of staff surgeon, and in 1861 took part in the Gambia expedition against the Mandingoes. He afterwards served in the West Indies and in India. From 1876 to 1879 he was stationed at Aberdeen, and during the latter year was sent to South Africa; here he was engaged in the Boer war, acting as senior medical officer of the Transvaal, and being with the forces in Pretoria during the siege. For his services in South Africa he was frequently mentioned in the despatches. In 1880 he was made brigade surgeon, and was appointed Deputy Surgeon-General in 1884, when he returned to this country.

MR. T. FISHER UNWIN is about to publish a work entitled "Medical Missions: their Place and Power." It is written by the Rev. John Lowe, the secretary of the Edinburgh Medical Missionary Society, and will contain an introduction by Sir William Muir. It will also be further embellished with a medallion portrait of Dr. John Abercrombie, the founder of the above Society.

AT their last meeting, the Council of King's College promoted Dr. Urban Pritchard to the Professorship of Aural Surgery, in consideration of the great services he had rendered to the hospital as Aural Surgeon during the past ten years. We believe that this is the first professorship in aural surgery that has been instituted in this country.

DR. THEODORE WILLIAMS, having completed fifteen years' service as Physician to the Brompton Hospital for Consumption, has, on the recommendation of the medical committee, been unanimously re-elected by the Committee of Management for a further term of five years.

MR. OLLESS has finished the portrait of Sir Henry Pitman, and it will be presented to the College by Sir Risdon Bennett, on behalf of the subscribers, at the meeting on the 19th inst., previously to the election of the President.

THE death is announced of Dr. Joseph Nowak, Professor of Hygiene in the University of Prague.

PROF. F. S. DENNIS, of New York, has recently had under his care a case of double gluteal aneurysm. The treatment he adopted was to perform a laparotomy, turn aside the viscera, and then ligature the two internal iliac arteries in the pelvis. The patient succumbed to chronic renal disease a week after the operation.

ON the 11th inst. the death occurred at Liverpool of Mr. Thomas Pennington. The deceased, who was born in 1807, obtained the licence of the Society of Apothecaries in 1828 and was admitted a member of the Royal College of Surgeons in 1829.

MR. CUBITT NICHOLS' report on the sanitary condition of Clerkenwell has just been presented to Parliament, and will shortly be published.

M. VULPIAN has been elected, after a sharp contest with M. Milne Edwards, as permanent secretary to the Physical Science section of the French Academy of Sciences.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Blackpool Urban District.—Dr. Welch issues a very complete report on the sanitary state of this borough, and it calls for the more attention because Blackpool constitutes one of the most important of the holiday resorts in the north-west of England. The infant mortality is excessive in Blackpool, and this is due in the main to such causes as diarrhœa, chest and wasting diseases, and so-called convulsions. As regards diarrhœa, Dr. Welch, who has mapped out the cases which occurred according to locality and to soil, is of opinion that it is mainly due to excessive moisture and high temperature acting conjointly on filthy surroundings, and he urges that it is in the direction of increased cleanliness, such as will aim at securing perfectly clean air, food, soil, and water, that improvement must be looked for. The suggestion as to the connexion of diarrhœa with filth is certainly borne out by the fact that enteric fever, which, though less frequent than it was, is still too frequent, coincided in point of distribution with diarrhœa, and of sixteen separate occurrences of enteric fever eleven were found to be associated with filthy conditions of premises or serious drainage defects. In some respects there is in Blackpool considerable scope for an active sanitary authority. The sewer ventilation has for some time past been a matter calling for attention, and Dr. Welch points that he is in entire concurrence with Dr. Page of the Local Government Board as to the need for improvement in this respect. He urges too, and with reason, that the fitting of charcoal trays to ventilating shafts is mainly instrumental in preventing the dilution of sewer air, and hence of ventilation, because the trays act as a barrier to the in-current of fresh air. He also presses for a proper hospital for infectious diseases, instead of the make-shift, which, by reason of site and accommodation available, fails to satisfy the most reasonable demands either of the public or of the medical profession. Blackpool has compulsory registration, and yet it has made no permanent arrangement for the isolation of two separate infectious fevers. But still the town can lay claim to a death-rate of only 15·3 per 1000, and this may be taken as an indication of what its possibilities are as a health-resort.

Coventry Urban District.—With a population of 46,739, Coventry may be congratulated on an annual death-rate for 1885 of only 16·2 per 1000. There were also only two deaths from any of the continued fevers during that period; and altogether the deaths from infectious fevers have been exceptionally low for at least two whole years. This result is doubtless, in the main, due to the persistent efforts which have for some time past been made in this ancient borough to get rid of causes of preventable disease, and to isolate the first attacks which come under notice. Dr. Mark Fenton's report gives evidence of maintained activity in these respects, and especially so in the closure of wells and in the extension of the public water-service to houses and to closets. Then, again, Coventry has long worked successfully with a temporary iron infectious hospital, and during 1885 as many as 101 patients were admitted, a corresponding number of centres of infection being thus removed from amidst the population. But the advantages secured by early isolation have been made so evident that a more attractive and suitable building was last year completed on a site of some five acres, where accommodation for twenty patients, each with 2184 cubic feet and 153 feet of floor space, has been provided. Dr. Fenton now urges his authority to go forward in other directions, and above all to deal with certain unwholesome areas and to provide a public abattoir, both of which are eminently necessary in order to secure permanency in the improved condition as regards mortality which has been attained, and with a view to wholesomeness not only of premises now bordering on existing slaughter-houses, but of one of the principal food-supplies of the population.

Sunderland Port District.—The increase in the inspection of vessels in this port is most satisfactory. In 1876 the number inspected was 965; last year it had reached 2142, and it involved inquiry as to the accommodation of no less than 23,490 persons, including crews and passengers. The effect of these inspections and of the operations resulting from them must be very widespread, and, indeed, Mr. Harris tells us that the sanitary condition of the ships is steadily improving; the average percentage of those which are good, or fairly so, being 84. Of 478 foreign vessels examined, 12·3 per cent. were in a distinctly insanitary state, but amongst British ships the rate reached 16·5 per cent. This is the reverse of creditable to a nation that professes to take the lead in such matters at sea as well as on shore; but from reports which we have received as to other ports we believe the Sunderland experience to be exceptional. German and French vessels compared unfavourably with British ones; the Dutch and the Danish ones were best kept. All reports as to port districts refer to the bad ventilation of forecastles; and it is to be hoped that the attention of shipbuilders may before long be pointedly drawn to this matter. A cowl with which Mr. Harris has experimented goes far to remedy the evil, and it has the advantage of getting rid of the foul air without risk of admitting water. Difficulties are experienced in Sunderland port in connexion with the isolation of infectious diseases. Perhaps in the action now being taken by the urban authority a solution of the question may ultimately be found.

Southend Urban District.—Excluding the deaths amongst visitors, the death-rate for 1885 was 15·2; including these it reached 17·7 per 1000. The little make-shift cottage hospital served to prevent a spread of small-pox. The dust question is a difficulty here, as elsewhere, where the authority try to get the scavenging done by contract instead of doing it themselves. Efficiency in filth removal is what should be aimed at, and not a mistaken economy, and this especially in a town which is professedly a health-resort. Mr. Phillips points out that improvements in connexion with the system of sewerage have been effected by the provision of tall ventilating shafts, and that the through-ventilation of new house drains is being enforced.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 6120 births and 3500 deaths were registered during the week ending April 10th. The annual death-rate in these towns, which had been equal to 29·3, 26·4, and 22·2 per 1000 in the preceding three weeks, further declined last week to 20·1, and was lower than in any previous week of this year. During the thirteen weeks of last quarter the death-rate in these towns averaged 24·4 per 1000, and corresponded with the mean rate in the first quarter of the ten years 1876-85. The lowest rates in these towns last week were 15·5 in Hull, 15·9 in Bradford, 16·3 in Wolverhampton, and 16·6 in Sheffield. The rates in the other towns ranged upwards to 25·6 in Manchester, 26·8 in Blackburn, 27·8 in Preston, and 28·7 in Portsmouth. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 430, 406, and 359 in the preceding three weeks, were 364 last week; they included 131 from whooping-cough, 121 from measles, 37 from diarrhœa,

26 from "fever" (typhus, enteric, or simple), 21 from scarlet fever, 21 from diphtheria, and 2 from small-pox. No death from any of these zymotic diseases was recorded last week in Hull, Huddersfield, or Halifax; whereas they caused the highest death-rates in Blackburn, Preston, and Portsmouth. Whooping-cough caused the highest death-rates in Manchester and Derby; measles in Oldham, Birmingham, Plymouth, Blackburn, and Portsmouth; and "fever" in Preston. The 21 deaths from diphtheria in the twenty-eight towns included 15 in London. Small-pox caused 1 death in London and its outer ring, 1 in Bristol, and not one in any of the twenty-six other large provincial towns. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had been 7, 8, and 11 on the preceding three Saturdays, had further increased to 13 at the end of last week; 3 new cases were admitted to these hospitals during the week, against 5 and 4 in the previous two weeks. The Highgate Small-pox Hospital contained 3 patients on Saturday last, one case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 917, 710, and 506 in the preceding three weeks, further declined last week to 350, and were so many as 160 below the corrected weekly average. The causes of 77, or 2·2 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Birmingham, Leicester, and in three other smaller towns; and the largest proportions of uncertified deaths were registered in Cardiff, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 27·9, 24·7, and 21·6 per 1000 in the preceding three weeks, further declined to 21·2 in the week ending April 10th, but was 1·1 above the mean rate during the same week in the twenty-eight English towns. The rates in the Scotch towns last week ranged from 15·1 and 17·8 in Dundee and Edinburgh, to 23·4 in Paisley and 24·6 in Glasgow. The 524 deaths in the eight towns showed a further decline of 10 from the numbers returned in recent weeks, and included 12 which were referred to diarrhœa, 11 to whooping-cough, 6 to measles, 4 to "fever" (typhus, enteric, or simple), 3 to diphtheria, 2 to scarlet fever, and 1 to small-pox; in all, only 39 deaths resulted from these principal zymotic diseases, against 62 and 46 in the preceding two weeks. These 39 deaths were equal to an annual rate of 1·6 per 1000, which was 0·5 below the mean rate from the same diseases in the twenty-eight English towns. The 12 deaths from diarrhœa slightly exceeded the numbers in recent weeks, and were 4 above the number in the corresponding week of last year. The fatal cases of whooping-cough, which had been 29 and 14 in the previous two weeks, further declined last week to 11, and included 9 in Glasgow. The 4 deaths from measles exceeded the number in the previous week by 2; 4 occurred in Edinburgh. The 4 deaths referred to "fever" were below the average of recent weekly numbers, and 6 below the number in the corresponding week of last year; they included 2 in Glasgow. The fatal cases of scarlet fever and diphtheria were also below the average. The death classed as small-pox (contrary to the system of classification used by the Registrar-General of England) was one attributed to chicken-pox in Edinburgh. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 204, 148, and 134 in the preceding three weeks, further declined last week to 109, and were 25 below the number returned in the corresponding week of last year. The causes of 90, or more than 17 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 40·5, 34·6, and 34·4 per 1000 in the preceding three weeks, further declined to 33·0 in the week ending April 10th. During the thirteen weeks of last quarter the death-rate in the city averaged no less than 33·5 per 1000; the mean rate during the same period did not exceed 24·8 in London and 20·0 in Edinburgh. The 223 deaths in Dublin last week showed a further decline of 10 from the number returned in recent weeks, and included 16 which were referred to the principal zymotic diseases, against 18 and 15 in the previous two weeks; 11 resulted from whooping-cough, 3 from "fever" (typhus, enteric, or simple), 2 from scarlet fever, and not one either from small-pox, measles, diphtheria, or diarrhœa. These 16 deaths were equal to an annual rate of 2·4 per 1000, the rates from the same diseases being 2·3 in London and 1·6 in Edinburgh. The fatal cases of whooping-cough, which had been 12 and 6 in the preceding two weeks, rose again last week to 11. The 3 deaths referred to "fever," on the other hand, showed a decline of 2 from the number in the previous week; and the fatal cases of scarlet fever were fewer by one. Eight inquest cases and 9 deaths from violence were registered; and 65, or considerably more than a quarter of the deaths, were recorded in public institutions. The deaths of infants and of elderly persons were fewer than those returned in recent weeks. The causes of 21, or 9·4 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

WAR OFFICE.—Grenadier Guards: Surgeon Hugh Rayner, M.B. Medical Staff, to be Surgeon, vice G. B. Stuart, M.B., promoted.

ARMY MEDICAL STAFF.—Surgeon-Major Edward Joseph Boulton is granted retired pay, with the honorary rank of Brigade Surgeon. Surgeon Oswald Gillespie Wood, M.D., to be Surgeon-Major. The undermentioned Surgeons to be Surgeons-Major:—Lloyd Brereton Ward, William Birkmyre Miller, M.D., George Blake Hickson, John Prendergast, James Adolphus Smith, John Martin, John Joseph Greene, M.B., Nathaniel McCreery, Joseph Andrew Gormley, M.D., John Edward Vaughan Foss, M.D.

INDIA OFFICE.—The Queen has approved of the retirement from the service of the undermentioned officers of Her Majesty's Indian Military Forces:—Brigade Surgeon John Houston, M.D., of the Madras Army, and Surgeons-Major Richard Thomas Lyons, M.D., and James Kelly, of the Bengal Army. The undermentioned officer is granted a step of honorary rank on retirement:—Brigade Surgeon George Alder Watson, of the Bengal Army, to be Deputy Surgeon-General. The Queen has approved of the following promotion, amongst others, among the officers of the Staff Corps and Indian Military Forces made by the Governments in India:—Surgeon-Major Henry Potter, M.D., of the Bengal Medical Establishment, to be Brigade Surgeon.

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Fleet Surgeon William Connolly, M.D., has been placed on the retired list of his rank.

The following appointments have been made:—Inspector-General of Hospitals Timotheus J. Haran, to Plymouth Hospital; Staff Surgeon George H. Madeley, to the *Phaeton*, and Staff Surgeon Robert Turner to the *Hotspur*.

MILITIA INFANTRY.—4th Battalion, the Royal Welsh Fusiliers: Surgeon John Richards is granted the honorary rank of Surgeon-Major.—3rd Battalion, Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon J. Corbet is granted the honorary rank of Surgeon-Major.—Nottinghamshire (Southern Nottinghamshire): Surgeon I. Massey, M.D., is granted the honorary rank of Surgeon-Major.—3rd Battalion, the Royal Irish Regiment: Surgeon John Percy Waddy is granted the honorary rank of Surgeon-Major.—5th Battalion, the Rifle Brigade (the Prince Consort's Own): Surgeon George P. Bate, M.D., is granted the honorary rank of Surgeon-Major.

ARTILLERY VOLUNTEERS.—1st Aberdeenshire: Surgeon J. Rodger, M.D., is granted the honorary rank of Surgeon-Major.—4th Durham: Surgeon S. Gourley is granted the honorary rank of Surgeon-Major.—1st Inverness-shire: Finlay Matheson Mackenzie, Gent., to be Acting Surgeon.—1st London (the City of London):—The undermentioned Surgeons are granted the honorary rank of Surgeon-Major: F. G. Bennett and V. Ambler, M.D.—2nd Middlesex: Surgeon R. T. Daniell is granted the honorary rank of Surgeon-Major.

RIFLE VOLUNTEERS.—1st Volunteer Battalion, Princess Charlotte of Wales's (Royal Berkshire Regiment): Surgeon O. C. Maurice is granted the honorary rank of Surgeon-Major.—3rd Durham (the Sunderland): Surgeon C. Nattrass, M.D.,

resigns his commission; also is granted the honorary rank of Surgeon-Major, and is permitted to continue to wear the uniform of the corps on his retirement.—1st Edinburgh (the Queen's, City of Edinburgh Rifle Volunteer Brigade): The undermentioned Surgeons are granted the honorary rank of Surgeon-Major: R. J. B. Cunynghame and F. Cadell.—3rd Volunteer Battalion (the Essex Regiment): The undermentioned Surgeons are granted the honorary rank of Surgeon-Major: David MacEwan and Alexander Campbell.—1st Volunteer Battalion, the Buffs (East Kent Regiment): Surgeon Henry Penfold, M.D., resigns his commission; also is granted the honorary rank of Surgeon-Major, and is permitted to continue to wear the uniform of the Battalion on his retirement.—2nd Volunteer Battalion, the Queen's Own (Royal West Kent Regiment): Surgeon J. P. Purvis is granted the honorary rank of Surg.-Major.—3rd Volunteer Battalion, the Norfolk Regiment: Surgeon S. M. Hopson is granted the honorary rank of Surgeon-Major.—2nd Volunteer Battalion, the Northumberland Fusiliers: Surgeon A. Wilson is granted the honorary rank of Surgeon-Major.—1st Tower Hamlets (the Tower Hamlets Rifle Volunteer Brigade): John William Jackson, Gent., to be Acting Surgeon.—1st Volunteer Battalion, the Gordon Highlanders: Surgeon A. D. Davidson, M.D., is granted the honorary rank of Surgeon-Major.—1st Dumbartonshire: Surgeon P. F. Robertson, M.D., is granted the honorary rank of Surgeon-Major.—8th Lanarkshire (the Blythswood): The undermentioned Surgeons are granted the honorary rank of Surgeon-Major: A. Fergus, J. E. Brodie.—20th Middlesex (Artists'): James Cagney, Gent., M.A., M.D., to be Acting Surgeon.—24th Middlesex: Surgeon J. T. Powell, M.D., is granted the honorary rank of Surgeon-Major.—1st Volunteer Battalion, the Royal Warwickshire Regiment: Surgeon Thomas Thompson is granted the honorary rank of Surgeon-Major.

Correspondence.

"Audi alteram partem."

THE BAROMETER AS A GUIDE TO HEALTH.

To the Editor of THE LANCET.

SIR,—A short while ago there came under my notice an abstract of the observations of Dr. M. A. Veeder of Lyons, New York, on the barometer as a guide to health. He says he has noted the occurrence of several deaths from apoplexy at times when rapid fluctuations of the atmospheric pressure were indicated by the barometer, and suggests the cause to be a difficulty in the adjustment of the volume and rate of the circulation of the blood to the varying atmospheric pressure upon the surface of the body, and consequent unusual strain on the weakened bloodvessels. He believes that at such times over-excitement, over-eating, improper clothing, and the like, act as determining causes of the rupture, and would warn persons who are advanced in years, or subject to symptoms that indicate an apoplectic tendency, to exercise great moderation in all things whenever the mercury is seen to be unusually active in its movements.

My attention was directed to this subject many years ago, and in the year 1872 I casually mentioned my opinions to Professor Gairdner of Glasgow, where I met him in consultation on a case of aphasia. I have often noticed a remarkable sequence of cases of cerebral and other hæmorrhages, and convulsions in children, during periods of great electrical disturbances and sudden and extreme fluctuations in the barometer. There is great difficulty, however, in obtaining an accurate reading of the barometer at the moment of seizure, the exact time of it being rarely noticed, and often considerable delay elapses before the message is brought to the medical man, during which the barometer may have made one of its sudden changes. On this account I have been unable to record many cases with the accuracy I could have wished. In two cases, however, I was more fortunate.

On Monday, March 1st, 1880, whilst spending the evening at the house of a friend, I received an urgent message to attend two patients who had been seized with cerebral hæmorrhage within a few seconds of one another. They were both past the middle period of life, one (a male) dying in a few hours, the other (a female) surviving for four days. My friend, who was in the habit of frequently consulting his barometer, examined it immediately after seeing me to the door, and found it standing at 28·10, the lowest reading he had ever seen it register. From the *Scotsman* of Tuesday, March 2nd, 1880, I extract the following notes of the storm:—"The following telegram was received at the East Coast Signal Stations from the Meteorological Office, London, yesterday: 'Deep depressions off north of Scotland; hoist north cone for west to north-west gale, Monday, 10.20 A.M.' A severe gale was experienced in Glasgow on Feb. 26th. The barometer by 10 A.M. stood at 28·8, a fall of 0·5 from Sunday. The barometer at Kirkwald registered 28·34, the lowest point registered since Nov. 22nd, 1877. At Longhope, Orkney, the barometer registered at midnight on Sunday 28·45, and at 9 A.M. on Monday 28·10, when broke forth the severest storm from the west witnessed since Nov. 16th, 1877. Between 2 and 3 P.M. peals of thunder were heard at Edinburgh."

I think that there can be no hesitation in connecting the cerebral hæmorrhage in the above cases with the sudden fall in the barometer. Indeed, so convinced am I of the connexion that for many years past I have been in the habit of advising my elderly patients to remain in-doors, and avoid intemperance in eating or drinking and over-physical or mental exertion, when the barometer suddenly rises or falls. Such sudden changes of atmospheric pressure must be attended with great danger to persons with weak hearts and diseased arteries. As none of our text-books, nor any of the authorities I have been able to consult, make any mention of the connexion between cerebral hæmorrhage and sudden variations of atmospheric pressure, I have cited the above cases in the hope that some of your contributors may be able to throw some light on the subject.

I am, Sir, yours sincerely,

WILLIAM F. MURRAY, M.D., F. & L.R.C.S.

Forfar, March, 1886.

P.S.—On Wednesday last, April 7th, the barometer suddenly sank to 28·4 in the evening, and remained at that point for a considerable time on Wednesday evening and Thursday morning. On my way to Perth on Thursday forenoon I ascertained from Mr. Robertson of Coupar Angus, who reports for the Meteorological Society, that his instrument had stood at exactly 28·4 the same evening and morning. On Wednesday night I had one case of convulsions in a child, and two cases of uterine hæmorrhage ending in abortion in the early months of pregnancy. In the *Dundee Advertiser* three cases of sudden death are reported to have occurred on the same evening within a radius of about twelve miles. They were all males—one seventy-two, one seventy-eight, and one above eighty. They had all been apparently in good health. This must be more than a mere coincidence.

SUPRA-PUBIC CYSTOTOMY.

To the Editor of THE LANCET.

SIR,—The danger of wounding the peritoneum in epicystotomy depends, I believe, to a great extent on the condition of the urine in the bladder. In a large proportion of cases of vesical calculus, bladder tumour, or cystitis (not induced by external agencies, dirty catheters, &c.), the urine is not septic. In some instances it is peculiarly suited to the growth of micro-organisms, so much so that, if passed into anything but a carefully purified vessel, it becomes putrid in a few hours. Even in these cases, as my valued teacher, Sir Joseph Lister, first pointed out, it is not necessarily septic when voided. I have now in my possession several specimens of urine from cases of cystitis and pyelitis, which I have preserved for a considerable time without any change having occurred in them (in one instance for more than six months), showing the absence of putrefactive organisms in the urine of these cases. These specimens have not been boiled, but were simply passed into purified vessels.

Numerous experiments on the lower animals, and cases of wound of the bladder in the human subject, during operation or otherwise, show that the contact of healthy urine with the peritoneum does not necessarily produce peritonitis. I believe that urine which contains muco-pus or pus, provided it is not septic, would be as little irritating to that membrane as healthy urine. From the examination of numerous subjects in the post-mortem theatre, I have satisfied myself that in a small proportion of them epi-

cystotomy could not have been performed without wounding the peritoneum or stripping that membrane off the bladder, as in M. Autal's case.

Major Tremaine has written in THE LANCET of April 10th, in reference to M. Polaillon's case: "Stranger yet that it [epicystotomy] should have been abandoned through dread of wounding the peritoneum; as this may occur without disaster, the following case will show, &c." This case supports my prediction at the British Medical Association meeting at Cardiff last year[1]—"That in a short time some malignant growths of the bladder with the portion of bladder wall to which they are attached, even when implicating the peritoneum, would be successfully removed, &c." At a meeting of the Bristol Medico-Chirurgical Society on Jan. 13th, I ventured to state my belief that in all cases in which the urine is not septic the peritoneum can be wounded with impunity in epi-cystotomy, provided strict antiseptic precautions are carried out. In those rare cases of low distribution of the peritoneum, complicated with a septic condition of urine in the bladder, it would be advisable to adopt the perineal route. I am, Sir, yours obediently,

Clifton, Bristol, April 12th, 1886. W. J. PENNY, F.R.C.S.

NOTE ON ACUTE KERATITIS.

To the Editor of THE LANCET.

SIR,—In the many excellent treatises and manuals on diseases of the eye, the descriptions of the objective symptoms of acute inflammation of the cornea leave nothing to be desired in respect to minuteness and accuracy. Its constitutional relationship to syphilis and struma is also duly recorded and explained. But, so far as my reading extends, the acute constitutional disturbance with which it is not unfrequently accompanied in the case of children and some adolescents, also exceptionally among adults, has escaped the attention of writers. The local disease is ushered in by a febrile disturbance; the child has not only lost its appetite, but is thirsty and chilly, creeping up to the fire. The pulse is quick and easily compressed. It is under these conditions that small doses of tartarised antimony in combination with liquor ammoniæ acetatis prove useful. Our object, of course, is to restore the action of the skin; and until this has been effected, tonics, oils, or antisyphilitic remedies are useless and out of place. Quinine I have not found to reduce the febrile symptoms.—I am, Sir, yours faithfully,

Birmingham, March 31st, 1886. J. VOSE SOLOMON, F.R.C.S.

THE ROMAN SCHOOL ON M. PASTEUR.

(*From our own Correspondent.*)

THE universal interest now taken in the Pasteur treatment of hydrophobia is specially marked in Italy, where, according to the statistics recently collected by Mancini, cases of the disease occur in the proportion of 0·04 to every 10,000 of the inhabitants. Seldom, indeed, has the Reale Accademia Medica of Rome discussed any topic with more animation than the treatment in question, and a *résumé* of its proceedings on the 4th inst. will be found instructive in more than one phase of the subject. After Drs. Marchiafava and Brunelli had spoken, and Dr. Carruccio (the secretary of the Academy) had read Pasteur's letter on the necessity of forming a great international institution in Paris for the reception of hydrophobic cases of all countries, Professor Colasanti related the experience of Italian physicians who had watched Pasteur's methods in that physiologist's own laboratory, and, taking it as proved that of 500 hydrophobic patients under his care Pasteur had had but three failures, he contended that this result more than justified Rome in following the example of St. Petersburg, New York, Buda-Pest, and Berlin, and establishing a special hospital for the practice of the Pasteur treatment.

The next note struck was a slightly sceptical one. The President, Dr. Guido Baccelli, hoped that Pasteur's method would come out unscathed from the critical ordeal to which it was about to be subjected, but he counselled caution in accepting and still more in practising it, and reminded his audience that something very like the same experiments had already been carried on in Italy—notably, by Dr. Agostino Cappello of Tivoli, more than sixty years since. These experiments, though made with the scientific resources of 1820, had still an appreciable value, if only as suggesting that rabies of the second degree is not transmitted. In Pasteur's experiments a distinction must be drawn between prevention on the one hand and cure, properly so-called, on the other; and on this point further light is to be desired. If, as Cappello asserted, rabies of the second degree is not transmitted, then multitudes of those who flock to Pasteur are already safe from the disease without his inoculations. Dr. Baccelli thought that, without committing itself further, the Academy should send a competent representative to Paris to watch the treatment with the vigilance it required. At this stage of the proceedings two telegrams were read for Dr. Politini announcing the despatch of a paper giving details as to the inoculation of the virus practised by him for a series of years.

Then followed an encounter between Dr. Colasanti and Professor Francesco Scalzi (Cesalpino's apologist), the former maintaining that Cappello's experiments differed from those of Pasteur, in that Cappello inoculated with the saliva of the hydrophobic dog, while the superior science of the Frenchman saw that the virus resides in the medulla spinalis, and used this, specially prepared, for the inoculations. Dr. Scalzi rebutted this charge, till an accurate acccount of Cappello's papers, as read before the Accademia dei Lincei in 1823 and 1826, had to be produced. This was done by Dr. Carruccio, who, recapitulating Cappello's attempt to neutralise the hyprophobic virus by the canine saliva, read the author's conclusion that, "from numerous experiments made on dogs and cats, he is satisfied that the rabies, after its first passage into another animal, not excluding those of the species *canis*, no longer preserves its venefic force, but is quite destroyed, and hence is not reproducible as contagious maladies are reproduced." Cappello, it seems, was able to predict with singular accuracy what cases bitten by a mad dog would die and what would recover—his thesis being that rabies of the first degree is alone capable of transmission, while that of the second (that is, one remove from the original mad dog) is not. Dr. Gualdi showed that Cappello's observations were most accurate, and were largely confirmed in France, where Brachit in 1840 and Regnault in 1844 published a long series of cases to prove that the hydrophobic virus in its second and third passage had lost its contagious virulence. As to Pasteur's statistics, Dr. Gualdi contended that their scientific value was often more than doubtful, because many patients subjected to the treatment had already been cauterised immediately after the bite; that others had been bitten in parts covered with their clothes; while very few, bitten on the naked skin, had not received some sort of therapeutic aid at the time. He mentioned what had occurred in the hospital of S. Gallicano, where a family of seven had been brought, all bitten by the same hydrophobic dog. Of these, three had their garments torn and the skin divided, but they escaped; two bitten on the bare skin died; and the remaining two, who had also been bitten on the bare skin, lived. He concluded by saying that if Cappello's observations and well-known practice had not been correct, the canine race in the Roman Campagna would have been stamped out long ago.

Dr. Bastianelli, in confirmation of the efficacy of clothes in preserving those bitten by mad dogs from the virus, cited the case of a countryman who, after a genuine hydrophobic bite, escaped, while his sister, who mended his trousers torn by the animal's teeth, and who had imprudently drawn through her teeth the thread which had been in contact with the saliva-stained garment, died of hydrophobia. Professor Marchiafava admitted the sagacity and diligence of Dr. Agostino Cappello, but dissented from Dr. Gualdi as to the validity of Pasteur's experiments, which, he said, rested on the grand impregnable principle of the attenuation of the virus, a principle demonstrated in the prevention of small-pox, carbuncle, the cholera of fowls, the red disease of pigs, &c., and established by the fifty animals which Pasteur had rendered scatheless from the bites of hydrophobic dogs. He was followed by Dr. Piermarini, who read from a former bulletin of the Academy (1881) an extract from a paper by himself to show the protective influence clothes exercise against the passage of the virus into the wounds inflicted by mad dogs; and the President, Dr. Baccelli, summed up the debate in a few succinct periods, in accordance with which was framed and unanimously voted the order of the day already given in THE LANCET.

Rome, April 9th.

[1] British Medical Journal, Aug. 15th, 1885.

MANCHESTER.

(From our own Correspondent.)

CASES OF POISONING.

Two cases of poisoning under unusual circumstances have lately occurred here. Two patients of a medical man in Openshaw, one a woman aged thirty-nine, and the other an infant of five months, had medicine made up for them on the same day by his assistant, and both died with symptoms of narcotic poisoning, the woman within twelve hours and the infant on the second day after. From the evidence at the inquest, it was found that in both cases the medicine supplied contained morphia—to the extent of 18¾ grs. per oz. in that supplied to the woman, and nearly double the amount in that supplied to the infant, though in the latter case the dispenser denied having used either morphia or opium. The verdict in the case of the woman was death from opium poisoning owing to negligence on the part of the dispenser; in the second, although the evidence was, if anything, less strong, a verdict of manslaughter was returned; but on the following day evidence was adduced in the police-court that death in this case might have resulted from disease of the lungs, and the stipendiary therefore refused to commit the defendant for trial.

SIR H. ROSCOE.

Sir Henry Roscoe, as one of our members of Parliament, has already brought his special scientific knowledge to bear upon matters before the Legislature, and was largely instrumental in getting Mr. Hastings' "Bill for the Purification of Rivers" rejected upon its second reading, as being under present conditions impracticable, and so hostile to the interests of manufacturers in this part of the country that, if passed, it would impose such restrictions and burdens upon many industries as would render it impossible to carry them on. Still later, he has been placed upon a committee charged with the duty of endeavouring to discover the cause of, and remedy for, the odours which so often offend the nostrils of our legislators within the House of Commons.

ST. MARY'S AND THE LOCK HOSPITALS.

A suggestion was thrown out at the annual meeting of St. Mary's Hospital that the time had arrived when an endeavour should be made to obtain a better and more modern building for this important charity, and now an appeal is before the public asking subscriptions for the same; but it is questionable whether the time is opportune, and at present the response has not been so encouraging as could have been desired. At the annual meeting of the Lock Hospital, at which the Dean of Manchester presided, it was stated that by dint of the most rigid economy the expenditure had been kept within the income, though this unobtrusive charity is perforce of limited funds compelled to keep one-half or more of its beds empty. That the management has, indeed, been careful is shown by the fact that the cost of food was less than ninepence per patient per day. The skin department of this institution also suffers from want of funds. It is now carried on in a separate building, and some good work is, as far as means will allow, being carried on there by Dr. Brooke.

FREE BREAKFASTS.

During the severity of the past season a scheme, which cannot be too highly commended, has been carried out under the auspices of the School Board authorities of providing free breakfasts to those poor children who were known to belong to parents in necessitous circumstances. It was stated at the last meeting of the School Board that 2500 children has thus been fed at a cost of four-fifths of a penny per head. The funds for providing the same were from voluntary contributions.

OPEN SPACES.

Our corporation has of late come in for a goodly share of criticism, not to say abuse, from certain quarters, but it cannot be denied that in many ways they endeavour to look after the interests of the health of the community. The Council has lately had under consideration the question of provision of open spaces, and a subcommittee has been appointed to consider and report as to the extent of its powers, and how best it may be brought about that, in laying out for building purposes land in the suburbs of the city, a due proportion shall be reserved open and free for the use of the inhabitants. Again, the Health Committee has for some time past seriously taken in hand the subject of unhealthy dwellings and homes of the poor, and at the Council meeting held recently a report was presented thereon, but it met with considerable opposition, the cry of vested interests being, as usual, raised against it, and the discussion was postponed.

Prosecutions for offences under the Adulteration Act are frequent; milk, butter, and coffee have all received attention, and the latest delinquents have been the bakers. In one case alum to the extent of forty grains per 4 lb. loaf was discovered, and the offender fined £5 and costs.

The compensation to the Local Board officials of Bradford and Rusholme upon the amalgamation of these townships with the city has, after much delay caused by opposition from some members of the corporation, been settled. The two medical officers of health will receive annuities of £8 and £24 per annum respectively.

Sir Wm. Roberts has been placed upon the Commission of the Peace for Merionethshire. In this instance, at least, it cannot be said that the honour has been conferred for political motives, for few men have associated themselves less with politics than Sir William.

Manchester, April 12th.

LIVERPOOL.

(From our own Correspondent.)

THE QUEEN'S VISIT.

THE approaching visit of Her Majesty to Liverpool and her residence there on the 11th and 12th proximo are being looked forward to with much interest. It will be her second visit to this city, her first having taken place in 1851, when she was accompanied by the late Prince Consort. Thirty-five years is a sufficiently long interval to cause great changes in the ranks of the medical profession in any locality, and but comparatively few of the present local medical practitioners can remember Her Majesty's first visit, while many who were then living and practising have passed away. The Exhibition, commonly known by its short title of the "Shipperies," will be held upon the site where it was proposed to erect the hospital for infectious diseases, but the site was condemned as unsuitable by the profession and the public in consequence of its close proximity to a large and extremely noisy railway junction.

THE LADIES' CHARITY AND LYING-IN HOSPITAL.

Dr. Glynn Whittle has been elected surgeon to the hospital, in the place of the late Dr. R. A. H. Wood. Dr. Whittle, who has very high qualifications, has been one of the district surgeons of the charity. The hospital will have in him a most useful medical officer, and the present staff a very genial colleague.

THE ROYAL SOUTHERN HOSPITAL.

Mr. Paul performed the Tagliacotian operation for an ulcer of the leg at the Royal Southern Hospital on Tuesday last. The patient was an otherwise healthy young man. He had a large ulcer in the usual position, which, probably on account of the large amount of cicatrix over the bone, always broke down after it had healed directly he got about. A broad flap of skin was dissected up from the opposite calf and attached to the freshened edges of the ulcer, the legs being fixed in suitable apposition by a plaster-of-Paris bandage. This is the sixth operation of the kind, and so far all have succeeded. In the children's ward is a case of rather severe stab in the back in a boy of eleven. This is the second example of the use of the knife amongst mere children which has come under the care of Mr. Paul within the last six months. The cause here was a religious party fight. The police will do well to prevent the spread of this most unfortunate tendency amongst boys.

ASSAULTS UPON AND BY POLICE CONSTABLES.

In so large a city as this it is only to be expected that there should be numerous assaults upon the police by the drunken and savage roughs to be found in every large community. Such cases, when clearly proved, are generally severely punished. It occasionally happens, however, that policemen are themselves guilty of violence towards prisoners in their custody, which is not surprising, seeing that in so large a force as 1300 men there must of necessity

be a few "black sheep." Formerly it was not uncommon for these cases to be hushed up, the complainant being induced for a consideration not to appear. Captain Nott-Bower, the present head constable, has most resolutely set his face against this practice, and has resolved that every case shall be fully inquired into by the magistrates as well as by himself and the Watch Committee. His resolution is much to be commended, as it is only by this means that perfect confidence can be felt in the police.

Liverpool, April 14th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

UNIVERSITY OF DURHAM.

THE number of candidates for the approaching examinations on the 19th and 26th of this month is as follows:—1st M.B. (under the new regulations), twenty-eight entries; Sanitary Science, certificate for proficiency in, two; 1st M.B. (old regulations), twenty-six; 2nd M.B. (new regulations), thirty-two. In the 1st M.B. (old regulations) and 2nd M.B. (new regulations), Mr. Frederick Treves is associated as foreign examiner in Anatomy with Dr. Mears; Mr. Golding-Bird as the foreign examiner in Physiology, with Dr. Thomas Oliver. Mr. McBean is examiner in Materia Medica in the 2nd M.B. (new regulations). This gentleman, I believe, will this summer give lectures on Therapeutics as well as Materia Medica, Dr. Barron having retired from the chair of Therapeutics.

PHOSPHORUS-POISONING.

Another case of phosphorus-poisoning from lucifer matches, in a man, was admitted to the infirmary about ten days since. His symptoms were from the first mild. This makes the sixth or seventh case admitted into that institution during the last four months.

NEWCASTLE CHEST HOSPITAL.

The full title of this institution is the Northern Counties Hospital for Diseases of the Chest, and it held its annual meeting on the 5th ult. The mayor presided, and spoke of the great benefit of hospitals to the public. The year, on the whole, had been a successful one; 554 patients had been treated. This institution, like others doing good work, had felt the pressure of the times in the diminished subscriptions of the past year. The committee regretted the resignation of Dr. J. C. Murray, who had removed to Stranraer, his place being filled by Dr. F. C. Coley of Newcastle.

SMALL-POX AT WEST HARTLEPOOL.

At a late special meeting of the Hartlepool Port Sanitary Authority Dr. Biggart reported that there were now twenty-two cases accommodated in the tents. It was decided to ask the Commissioners to grant the authority the use of a portion of the waggon works.

NEWCASTLE INFIRMARY.

The Committee of the Newcastle Infirmary have issued an appeal to the public for increased support, stating that the present annual expenditure is £13,949, and its receipts only £10,437, and that if its work is to continue £3000 will have to be added to the yearly income. At present the banking account is overdrawn to the extent of £3000. One of the grounds of appeal is that "the infirmary is really the parent of all the numerous medical charities, and that the increase in the number of such charities has not diminished the work of the infirmary, though without doubt it has materially lessened the support which would have been given to it." Though the number of patients has increased from 14,294 in 1863 to 39,360 in 1885, the amount of subscriptions have only increased during this time £500 per annum. On the other hand, Mr. C. S. Jeaffreson, who was formerly connected with the Newcastle Infirmary, but is now one of the surgeons to the Eye Infirmary, writes to one of our local papers pointing out that the statement that the infirmary is the parent of all the medical charities of this city is entirely at variance with facts. Mr. Jeaffreson says—"None will deny that a very large amount of useful and valuable work is done by the infirmary, but that those who best know the workings of our medical charitable system will agree with me that with due economy, proper management, and proper supervision of the class of patients who receive the benefits of the charity, £10,500 a year should amply suffice for its requirements."

IRELAND.

(From our own Correspondent.)

ROYAL COLLEGE OF SURGEONS IN IRELAND.

IN addition to the names already mentioned as having recently been elected Honorary Fellows of the Royal College of Surgeons in Ireland, may be added that of Sir Spencer Wells, whom the Council at their meeting last week duly elected to that honour, and I am informed that he will be present at the banquet to be given by Sir Charles Cameron, the President, on the 28th inst. A History of the College, which the President has been engaged upon for a considerable time past, is now almost finished, and it is hoped that a copy of the work will be in time for the ceremony on the 28th inst. By the kindness of Mr. Farrell, the well-known sculptor of this city, I have had an opportunity of seeing his statue of Mr. Dease, one of the founders of the College. It is an excellent work of art, and is sure to give every satisfaction to all interested in the matter.

ROYAL UNIVERSITY OF IRELAND.

A deputation from the Senate, which included Lord Emly, the Vice-Chancellor, had an interview with the Lord-Lieutenant last week, for the purpose of asking his Excellency to impress on the Government the necessity of granting a sum of £10,000 for providing laboratories and scientific apparatus for the new buildings now being erected. A deputation from the University, with a similar object, some time since had an interview with the Financial Secretary to the Treasury, without any result. Lord Emly stated that when the University was founded it was understood the buildings should be provided by Government with all necessary appliances, and that, in point of fact, the buildings recently erected by the Government would be perfectly useless, as the University could not furnish the necessary apparatus out of the grant of £20,000 a year at present allowed. His Excellency said that the view of the Government appeared to be that the endowment was ample, and that all University appliances could be provided out of it. However, if the Senate would state their views on paper, he would forward them to the Treasury, with an endorsement as to his own opinions.

OUTBREAK OF FAMINE FEVER IN LISMORE UNION.

Last week five cases of famine fever were admitted to Lismore Fever Hospital from the district of Cappoquin, and the following remarks, as bearing on the subject, may be of interest. During the winter severe distress prevailed in Cappoquin district owing to the want of employment among the labouring classes, and, in consequence, the guardians instructed their engineer to report as to the condition of the labouring poor, and, if necessary, to carry out any sanitary works that might be required. He reported that he found many of the labourers without a morsel of food, and employment was therefore given to about fifty for a few weeks, and then ceased, as the guardians could not open up special work to cope with the distress without the consent of the Local Government Board. However, the labourers were placed on half out-door relief, and consequently many families existed in a state bordering on starvation on an allowance of one shilling per week. The medical officer of the union, Dr. Dennehy, brought the matter of the outbreak of fever before the guardians, and it has been stated that an inspector of the Local Government Board has been sent to inquire into the state of the district. So far as has been ascertained, the fever is confined to the locality where it originated, and by proper precautions and by additional employment being given to those most in need, it is expected that the distress will be alleviated. No additional cases, it is believed, have occurred.

BOARDING OUT OF PAUPER CHILDREN.

This procedure has generally been attended with satisfactory results not alone to the children but also to the ratepayers, as the nurses almost invariably adopted the children placed under their care. Exceptions, however, occasionally occur, and last week an instance of the kind was reported at a meeting of the guardians of the North Dublin Union. It was discovered that a woman to whom two children had recently been given out of the workhouse to nurse and rear had thirteen additional children who were living in a cottage of only two apartments, and very properly the children in question were at once removed from her custody.

NORTH DUBLIN UNION.

A deputation from the guardians recently waited on the Governors of the Richmond Lunatic Asylum in order to obtain a capitation grant of four shillings for the pauper lunatics sent into the workhouse from the asylum under the 9th section of 38th and 39th Vic., cap. 67. The governors of the asylum, however, were of opinion that these lunatics were sent in under the provisions of the 11th section, and not of the 9th, of the Act referred to, and declined to make any payment or to enter into the matter until the guardians could produce the consent of the Local Government Board and of the Lunacy Inspectors to the claim. As the sum claimed is £1600, and as the South Dublin Union are endeavouring to establish a similar demand, the matter will be again brought forward, and doubtless will ultimately be granted. The refusal of the governors to acknowledge their indebtedness is said to arise from the fact that the present accommodation and attendance given to harmless lunatics sent into the workhouse is very deficient.

Dublin, April 13th.

PARIS.

(From our own Correspondent.)

DEATH OF PROFESSOR BOUCHARDAT.

THIS eminent physician expired on Thursday, the 8th inst., at his residence in Paris, in the eightieth year of his age. He died from extreme exhaustion resulting from great depression of spirits, by which he had become affected since his retirement from the Professorship of Hygiene, which he held at the Paris Faculty of Medicine since 1852. For some time before his retirement he became rather deaf, in consequence of which he was obliged to refrain from taking part at the examinations for the Doctorate. He was otherwise in good health, but his forced retirement from an active life so preyed on his mind that he gradually broke down and nothing seemed to renovate him. Professor Bouchardat did not do much in the way of practice, but devoted his whole time to the improvement of his office and to scientific and literary work. He wrote a good deal, and the mere enumeration of his works would fill some columns of THE LANCET. He wrote principally on Materia Medica, Pharmacology, and Hygiene. The works bearing these titles are the text-books of the Paris Faculty, and will probably remain so for some years to come. His "Annuaire de Thérapeutique," which was commenced forty-five years ago, and his "Nouveau Formulaire Magistral," which has passed through nineteen editions, are well known to the profession. He took his degree in 1832, and was soon after promoted to agrégé, but, as he evinced a predilection for pharmacology, he was appointed pharmacien to the hospitals, in which capacity he was attached to the Hôtel Dieu from 1834 to 1853. He was a member of the Academy of Medicine since 1850, and became its president in 1866. He was also an officer of the Legion of Honour. He leaves two sons, one of whom is a surgeon-major in the French Army, and the other is a professor at the School of Pharmacy. The funeral of the deceased physician took place on Saturday last, in the presence of a large concourse of persons of all ranks in and out of the profession, among whom were many of his patients of both sexes; and to give your readers an idea of the number that attended I may mention that the old cathedral of Notre Dame, his parish church, and where the service was performed, was at least half full. Though his desire was that his funeral should be as simple as possible and without any official pomp, yet the members of the Faculty and the Academy of Medicine considered it their duty to attend in a body, though not in their official garbs.

DEATH OF DR. AMÉDÉE FORGET.

I have also to report the death of Dr. Amédée Forget, which took place on Sunday, the 11th inst., in the seventy-fifth year of his age. He was for many years in failing health, which induced him to retire from practice. He was once president of the Société de Médecine of Paris, and at his death was consulting surgeon to the Institution of the Legion of Honour, of which he was also an officer. His medical knowledge was very extensive, and he more than once received a prize from the institute in recognition of the value of his works.

A VENERABLE SAVANT.

There are three men whose names have been for some time almost constantly before the public: M. Pasteur, for his remarkable discoveries; M. de Lesseps, as a pioneer of civilisation; and M. Chevreul, as an illustrious chemist, academician, and centenarian. M. Chevreul styles himself the "doyen des étudiants." In order to celebrate his hundredth birthday, which is on Aug. 31st next, the various learned societies of France propose having a public demonstration in his honour. It is also proposed to celebrate the centenary of the introduction of the potato into Europe by Parmentier in the form of a banquet, which will be presided over by the three illustrious men above named, and on which occasion "la pomme de terre" will be the "plat d'honneur."

M. PASTEUR.

The Stanley Club at Paris gave this evening a dinner to M. Pasteur, which was presided over by the American Minister. In replying to the toast of the evening, M. Pasteur, referring to his system of treatment by inoculation, said that the insults of anti-vaccinators and anti-vivisectors, the hesitation, temporising, or jealousy of newspapers, were immaterial to him. He could afford to wait with confidence, albeit there were some who waited with the hope of his failure. I may here mention that the Sultan of Turkey has decided upon sending a mission to Paris composed of two medical men and a veterinary surgeon to study the anti-rabic method of M. Pasteur. One of the party is the bearer of the Grand Cordon of the Medjidieh and a sum of 10,000 fr., which are to be given to M. Pasteur in the name of the Sultan, the latter being intended for the Pasteur Institute. At the last meeting of the Société d'Hygiène, M. Pasteur announced the death of another patient (which will be the third) of the first Russian party from Smolensk. He died on April 2nd, at the Hôtel Dieu, with the symptoms of hydrophobia. M. Pasteur is by no means discouraged by these deaths; he will only be induced to study more particularly the phenomena attending the bites of wolves, which he considers more grave than those of dogs or other animals.

Paris, April 14th.

MEDICAL NOTES IN PARLIAMENT.

Contagious Diseases Acts Repeal (No. 2) Bill.

IN the House of Lords on the 9th inst., Lord Sandhurst, in moving the second reading of this Bill, said that it was intended simply to carry out public opinion, which had of late years gone in one direction—viz., in that of the repeal of the Acts. Viscount Cranbrook agreed that when Acts were inoperative they should be removed from the Statute Book, but protested against the idea of local authorities being called on to undertake a duty which the Legislature refused to carry out. The motion was then agreed to.

On the 12th inst. the Bill passed through Committee, and on the 13th inst. it was read a third time and passed.

The Idiots Bill.

On the 12th inst. this Bill was read a third time.

The Medical Act, 1858.

In the House of Commons on the 14th inst., a Bill to amend the Medical Act, 1858, was brought in by Mr. Morgan Howard, and read a first time.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their Primary Examination in Anatomy and Physiology at a meeting of the Board of Examiners on the 8th inst., and when eligible will be admitted to the Pass Examination:—

W. H. L. Copeland and H. S. Tuppen, Cambridge University and St. Thomas's Hospital; Montague Tench, J. Kynaston Couch, J. A. T. Woodgate, and F. G. Parsons, Middlesex Hospital; A. E. Norburn, E. Devereux Mothersole, and C. Price-Jones, Guy's Hospital; A. H. Cheatle, King's College Hospital; J. England Brogden, St. Bartholomew's Hospital; W. S. Sharpe, G. Coleridge Davis, and Alexander Lewers, St. Mary's Hospital; F. Grange, Charing-cross Hospital; W. B. Ransom, Cambridge and University College Hospital; W. Harris Best, London Hospital; A. J. Adkins and C. J. Martin, St. Thomas's Hospital.

ANATOMY ONLY.—H. Lee Green, Toronto University; John Griffith, St. Mary's Hospital; A. H. Blunt, St. Thomas's Hospital.

PHYSIOLOGY ONLY.—P. W. Turnor, St. George's Hospital; P. Christian de Wet, St. Thomas's Hospital.

Passed on the 9th inst.:—

ANATOMY AND PHYSIOLOGY.—W. L. Liston, Owens College and St. Mary's Hospital; J. Mansbridge and William Morrison, Charing-cross Hospital; E. T. Larkam and J. W. Gill, Middlesex Hospital; F. R. P. Taylor, Westminster Hospital; C. S. Dowdell, University College Hospital; Arthur Fagan, London Hospital; A. E. P. Hughes, St. Thomas's Hospital.

ANATOMY ONLY.—E. D. Kell, University College Hospital; E. A. Nicholletts, London Hospital; Herbert Fraser, St. Thomas's Hospital; Reginald Hedley and James Smith, Bristol Medical School; Mailard Martin, Sheffield Medical School; John Robertson, Guy's Hospital.

PHYSIOLOGY ONLY.—R. W. Anderson, University College Hospital; A. E. Howse, King's College Hospital; J. M. Fry, Westminster Hospital; D. J. Aaron, London and Madras; A. W. Gray and R. S. M. Groves, Birmingham School of Medicine; F. R. Hird, Yorkshire College, Leeds; W. J. Watkins, Bristol Medical School; J. A. Wood, University College Hospital.

The Library of the College of Surgeons will be closed on Friday and Saturday, the 16th and 17th inst., for the purposes of the Final Examination for the Membership, 280 candidates having entered for this examination.

ROYAL COLLEGES OF SURGEONS AND PHYSICIANS.—The following gentlemen passed their Second Examination in Anatomy and Physiology at a meeting of the Board of Examiners on the 5th inst., and when eligible will be admitted to the Pass Examination:—

J. E. Briscoe, Yorkshire College, Leeds; S. W. Morgan, Hedley Hill, H. F. Mole, and J. T. Grey, Bristol Medical School; Thomas Watts, Oliver Eaton, Patrick Rowan, J. H. Barker, B. Wiseman, J. Halliwell, Aubrey Conway, J. A. Cooke, and E. H. Robinson, Owens College, Manchester; S. Farrage Gibbs, H. N. Crossley, H. E. Knight, C. H. Roberts, and F. E. A. Colby, St. Bartholomew's Hospital; R. A. Bremner and J. R. F. Hosking, Guy's Hospital; H. E. Skyrme and Samuel Davey, London Hospital; A. S. Milner and B. F. F. Jackson, Charing-cross Hospital; G. E. Weary and J. Tertius Clarke, St. Thomas's Hospital; R. T. Gravely, St. Mary's Hospital.

ANATOMY ONLY.—A. C. Gaskin and H. C. Titterton, Owens College, Manchester.

PHYSIOLOGY ONLY.—H. K. Ramsden, Owens College, Manchester; Masha A. Khan and E. J. Reynolds, London Hospital; G. H. Humphreys, St. Bartholomew's Hospital.

Passed on the 7th inst.:—

ANATOMY AND PHYSIOLOGY.—F. E. Forward, H. H. Hulbert, and T. P. Cowen, St. Thomas's Hospital; E. Beddoe Hulbert and Harry Davis, University College Hospital; J. T. Clapham, W. G. Willoughby, Ransom Pickard, W. F. Cholmeley, Bedford Price, A. R. Poulter, G. H. D. Robinson, H. G. G. Cook, and C. Evelyn Ormerod, St. Bartholomew's Hospital; Percy J. Kingston, Oakley E. Higgens, William Henry, and F. W. Lewitt, St. Mary's Hospital; Maxwell Le Cronier, W. Marshall Davidson, and H. Higgins, St. George's Hospital; H. C. H. Parham, P. J. Duncan, and E. J. Appleton, Charing-cross Hospital; T. Boswall Beach, King's College Hospital; Louis Beckett, London Hospital.

ANATOMY ONLY.—Colin E. W. Bennett, Middlesex Hospital.

PHYSIOLOGY ONLY.—Frederick Bell, St. Bartholomew's Hospital; R. H. Tompsett and Harry Gervis, St. Thomas's Hospital.

Passed on the 8th inst.:—

ANATOMY ONLY.—Cyril Ogle and W. S. Heberden, St. George's Hospital; R. J. Hutchinson, London Hospital.

Passed on the 12th inst:—

ANATOMY AND PHYSIOLOGY.—E. A. Edelsten, B. C. Oldham, Robert H. Elliot, Alfred Willson, J. C. Shaw, A. W. L. Jones, S. Browning Smith, C. B. Hutt, and J. A. Hayward, St. Bartholomew's Hospital; L. H. Bennett and C. H. Duncan Moriand, St. George's Hospital; E. A. Falkner and B. H. Deare, Middlesex Hospital; J. R. Plant, Westminster Hospital; J. W. Higginson, University College Hospital; P. C. Thomas and E. A. Roberts, St. Thomas's Hospital; A. E. Baker, Charing-cross Hospital; H. S. Ballance, King's College Hospital; Arthur M. Hickley, St. Mary's Hospital; H. B. Bolus, Guy's Hospital; W. Soltan Fenwick, London Hospital.

ANATOMY ONLY.—P. Napier Jones, St. Mary's Hospital; E. R. Streeten, St. George's Hospital; F. E. Marshall, King's College Hospital.

PHYSIOLOGY ONLY.—A. Talman Ilott, Charing-cross Hospital; E. D. Y. Pode and F. R. S. Milton, St. Thomas's Hospital; A. C. Davies, University College Hospital; Charles Spurrell, Guy's Hospital.

Passed on the 13th inst., and when eligible will be admitted to the Final Examination:—

ANATOMY AND PHYSIOLOGY.—W. J. Foster, St. Mary's Hospital; J. Gilbert Ogle, E. M. R. Bryant, and E. G. Carpenter, St. Bartholomew's Hospital; A. N. Boycott, H. G. Turney, and P. C. Abbott, St. Thomas's Hospital; F. Bernard Betts, Westminster Hospital; A. E. Watson, J. Ring, J. A. Hutton, and G. Colborne, Middlesex Hospital; B. M. H. Rogers and Arthur Gale, University College Hospital; K. Worsley Poole, F. S. Harris, and Ernest Burchell, London Hospital; R. T. Hewlett, King's College Hospital; H. W. Clarke, Charing-cross Hospital.

ANATOMY ONLY.—W. Metcalfe and Lennard Cutler, St. George's Hospital; H. W. Reynolds and Frank T. Long, St. Bartholomew's Hospital; Walter Gibson, Guy's Hospital; Edgar H. Strong and W. V. Eaves, University College Hospital.

PHYSIOLOGY ONLY.—P. T. B. Beale, King's College Hospital; D. Lawson, and C. L. Howe, Middlesex Hospital; Charles Wilson, William Thomas, W. H. Coates, and Stuart R. Blake, London Hospital; N. A. A. Trenow, St. George's Hospital; Arthur Boulton, Charing-cross Hospital; Francis Dugon, Guy's Hospital; D. D'Auvergne Wright, University College Hospital.

SOCIETY OF APOTHECARIES.—The following gentlemen passed the examination in the Science and Practice of Medicine, Surgery, and Midwifery, and received certificates to practise, on the 8th inst.:—

Burnside, Eustace Augustus, Richmond-road, Bayswater.
Pain, Francis, M.R.C.S., Strathfield House, Thurlow-park-road, Dulwich.
Whitten, Samuel, Fairfield-road, Bow.

On the same day the following gentleman passed his Primary Professional Examination:—

Conolly, Charles Hamilton, St. Bartholomew's Hospital.

THE library of the Royal Medical and Chirurgical Society will be closed from Good Friday to Easter Monday, both days inclusive.

MR. M. C. SOUTTER, M.R.C.S., A.K.C. Lond., of Finsbury Park, has been elected a member of the South Hornsey Local Board of Health.

ANTI-VACCINATION AT LEICESTER.—Of the thirty-eight guardians elected for the Leicester board this week twenty-six are stated to be pledged to resist the operation of the Vaccination Acts.

THE Duke of Connaught presided on the 14th inst. at the festival dinner in aid of the funds of the British Home for Incurables. During the evening subscriptions amounting to about £1000 were announced.

VACCINATION GRANTS.—Mr. Garrett Horder, of Crockherbtown; Mr. R. G. Price, of Treorchy; and Mr. Geo. Lowther, of Kingston-upon-Hull (fifth time), have received the Government grant for efficient vaccination in their respective districts.

A NEW sanatorium for infectious diseases, erected at Alcester by public subscription as a memorial to the late Marquis of Hertford, was publicly opened on Saturday last by the Marchioness of Hertford, in the presence of a distinguished company.

AMONGST the guests present at a banquet given at the Mansion House by the Lord Mayor, on the 13th inst., to the representatives of the learned societies, were Sir James and Lady Paget, Mr. W. S. Savory (President of the Royal College of Surgeons), Sir Andrew and Lady Clark, Sir William Gull, Dr. B. W. Richardson, and Dr. Edwards.

MEASLES IN BERLIN.—An epidemic of measles is, it is reported, prevailing to a considerable extent amongst the upper classes of Berlin, one of the latest sufferers being the Crown Prince of Germany. His Highness's age being fifty-four, the disease cannot be considered entirely free from danger, but fortunately the attack appears to be of a mild character.

SANITARY ASSURANCE ASSOCIATION.—At a meeting of the Council on the 12th inst., General Sir Peter S. Lumsden, C.B., C.S.I., G.C.B., was elected a member of the Executive Council on the motion of Sir Joseph Fayrer, F.R.S. Mr. Mark H. Judge, A.R.I.B.A., submitted a draft Bill for the better sanitation of dwellings. This draft was referred to a Committee for consideration and report. One of the provisions of the proposed Bill is as follows:—"After January 1st, 1888, it shall not be lawful for any dwelling-house, school, hotel, or other public building used, or intended to be used as such, to be so used unless and until a certificate has been deposited with the local authority in accordance with the provisions of this Act."

PRESENTATIONS.—In recognition of his having given two courses of instruction in ambulance work to the members of the Leith police force during the past winter, Dr. O. H. Garland has recently been presented with a silver cigarette case by his pupils.—On the 3rd inst., at a meeting presided over by Sir Andrew Clark, a testimonial, consisting of a timepiece and an illuminated address, was presented to Dr. Dundas Grant in recognition of his services as chairman of the late East London Industrial Exhibition.—On the 4th inst. the boys of Marlborough College presented Dr. Fergus with a silver tea service, he having, as previously intimated, resigned his post as medical officer of the College after a tenure of thirty-seven years.—On the 8th inst., previous to his departure for Cape Colony, Mr. Davidson was presented by several of the inhabitants of Alnwick with an illuminated address, a valuable case of surgical instruments, and a purse of gold as a mark of their appreciation of the manner in which he had performed the duties of medical officer of health of the town and house surgeon to the local infirmary.—On the 5th inst. Dr. Lionel Weatherly was presented by the working men and women of Portishead with a timepiece and an address, on the occasion of his quitting the neighbourhood.

AT the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on the 13th inst., T. Russel Pickthorn, Esq., Inspector-General, in the chair, the sum of £64 was distributed among the several applicants.

THE SEWAGE QUESTION.—The treatment of sewage formed the subject of a paper introduced at the Society of Arts on the 14th inst. by Dr. Meymott Tidy. The paper was exceedingly voluminous, and although the author did not present it in more than outline, the reading of it occupied the entire morning, discussion being postponed until a future date. Sir Frederick Abel presided, and there was a large attendance of engineers, chemists, and others interested in the question.

THE HOSPITALS ASSOCIATION.—The annual meeting of the members of this Association was held on the 14th inst., Sir Andrew Clark presiding. The report, which was read by Mr. F. Almond Hunt, and ultimately adopted by the meeting, divided the work carried out by the Association into three main heads—the collection, classification, and arrangement of figures and facts bearing upon the administration of hospitals and asylums, and their publication; the appointment of sectional committees; and the dissemination of information likely to benefit hospital economy. Mr. H. Burdett, in moving the adoption of the report, detailed the progress which is being made by the Association. Amongst the other speakers were Mr. Pease, M.P., Dr. Bristowe, and Major-General Keating. Sir Andrew Clark was elected president of the Association.

THE LIVERPOOL LOCK HOSPITAL.—For reasons more obvious than logical, lock hospitals receive few or none of the gifts so lavishly showered upon other hospitals in the shape of books, engravings, prints, flowers, &c. It is therefore very gratifying to give an exception to this general rule. Some years ago, at the request of Mr. F. W. Lowndes, one of the surgeons to the Liverpool Lock Hospital, the proprietors of the *Graphic* forwarded to the hospital a large parcel of back numbers with separate large engravings, both coloured and plain. With the assistance of some influential friends these were framed and glazed, and were sufficient to cover the walls of the female wards. Recently, Mr. Lowndes received another parcel from the same donors, with engravings for the male wards.

SOCIAL SCIENCE ASSOCIATION.—At a special general meeting of this Association held on Wednesday, the 14th inst. (Mr. Hastings, M.P., in the chair), a motion, of which due notice had been given, for the dissolution of the Association and its amalgamation with some other body, and an amendment recommending a continuance of the annual Congresses having been considered and ultimately withdrawn, it was unanimously resolved, on the motion of Mr. Hastings, M.P., seconded by Mr. Mark H. Judge: "That the action of the Association be suspended for the present, and that a committee of twelve be now appointed to reduce within the smallest practicable limits the expenditure, and to clear off the existing liabilities; to dispose of any of the books or other property of the Association; to call the Society into active existence whenever the circumstances of the time may seem favourable; and to report to a special general meeting of the Association on a requisition signed by at least twenty members."

ASSOCIATION OF MEDICAL PRACTITIONERS QUALIFIED IN SANITARY SCIENCE.—At a largely attended meeting held on the 9th instant, the above Association was inaugurated. It was proposed by Dr. H. F. Parsons, and seconded by Dr. Louis Parkes, that the body be called "The Association of Medical Practitioners qualified in Sanitary Science," which was carried unanimously. The main object of the Association is to obtain the registration of sanitary science degrees and certificates of universities and corporations whose medical degrees and licences are at present registrable. Among others who have joined the Executive Council are the following:—P. Hinckes Bird, F.R.C.S. Eng.; D. W. Finlay, M.D. Glasg.; A. Newsholme, M.D. Lond.; Louis C. Parkes, M.D. Lond.; H. F. Parsons, M.D. Lond.; C. E. Saunders, M.D. Aberd.; W. R. Smith, M.D. Lond; W. E. Steavenson, M.D. Cantab.; J. F. J. Sykes, M.B., B.Sc. Ed.; E. F. Willoughby, M.B. Lond.; D. S. Davies, M.B. Lond. (Bristol); R. Bruce Low, M.D. Ed. (Helmsley); and J. F. W. Tatham, M.B. Dub. (Salford)—Hon. Secretaries: J. Edwin Cooney, L.R.C.P. Ed. (20, Vereker-road, West Kensington, S.W.); H. A. Fotherby, L.R.C.P. Lond. (St. George's Infirmary, Fulham-road, S.W.)

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

BALDWIN, T. A., M.D Dub., L.R.C.S.I., has been appointed Assistant Surgeon to the Hull Royal Infirmary.

BOND, B. M., M.R.C.S., L.R.C.P., has been appointed Resident Clinical Assistant to the East London Hospital for Children and Dispensary for Women, Shadwell.

DE'ATH, GEORGE HANBY, M.R.C.S., L.R.C.P.Lond., has been appointed Coroner for the Winslow Division of Bucks; Medical Officer to the Buckingham Workhouse; Medical Officer for the Leckhampstead District of the Buckingham Union; Medical Officer of Health for Buckingham; and Medical Officer of Health for the Leckhampstead District of the Buckingham Union.

FISHER, H. HOLDRICH, M.B.Lond., M.R.C.S., L.R.C.P.Lond., has been appointed Surgical Assistant to the Glasgow Royal Infirmary.

HOWLETT, E. H., F.R.C.S., has been appointed Assistant Surgeon to the Hull Royal Infirmary.

MURDOCH, ANDREW, M.B., C.M.Glas., has been appointed Medical Officer for the Rainford District of the Prescot Union.

PETCH, RICHARD, M.D.Lond., M.R.C.S., L.S.A.Lond., has been appointed Honorary Medical Officer to the York County Hospital.

PHILLIPS, E. A., M.R.C.S., L.R.C.P.Ed., has been appointed Medical Officer for the Dunham District of the East Retford Union, for the Newton-on-Trent District of the Gainsborough Union, and for the Clifton District of the Newark Union.

PIGEON, H. W., M.B., B.C., F.R.C.S., has been appointed Assistant Surgeon to the Hull Royal Infirmary.

ROCKLIFFE, W. CRAVEN, M.A., M.B.Cantab., M.R.C.S., &c., has been appointed Honorary Ophthalmic Surgeon to the Hull Royal Infirmary.

SHEPERD, R. J., L.R.C.S.I., L.K.Q.C.P.I., &c., has been appointed Medical Officer for the Radnorshire District of the Hay Union; and Public Vaccinator and Medical Officer of Health for the District, vice Applebe, resigned.

STANILAND, SAMUEL, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Stapleford District of the Wilton Union.

TANNER, HERBER, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Audlem District of the Nantwich Union.

TURNER, RICHARD, M.B., has been appointed Honorary Medical Officer to the York County Hospital.

Births, Marriages, and Deaths.

BIRTHS.

DICKSON.—On the 11th inst., at Great Marlow, Bucks, the wife of John Dunbar Dickson, M.D., of a son.

FENNER.—On the 7th inst., at Cromer, the wife of Robert Fenner, M.R.C.S., L.R.C.P., of a son.

IMLACH.—On the 9th inst., at Canning-street, Liverpool, the wife of Francis Imlach, M.D., of a son.

PEARCE.—On the 14th inst., at Leanox Villa, Hurstp'erpoint, the wife of Henry Pearce, M.R.C.S., L.S.A.Lond., of a son.

WAGSTAFF.—On the 9th ult., at Acre-lane, Brixton, the wife of John Philip Wagstaff, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A.Lond., of a daughter.

MARRIAGES.

DAVIDSON—HENDERSON.—On the 6th inst., at St. Augustine's, Forest-hill, by the Rev. J. H. Morgan, D.D., James McKenzie Davidson, M.B., C.M., of Aberdeen, to Georgiana Barbara Watt, daughter of the late W. Henderson, of Aberdeen.

FRASER—WEIR.—On the 7th inst., at the Cottage Moor Farm, Tain, Scotland, by the Rev. Colin MacNaughton, of Tain, Alexander Fraser, Esq., M.B., Professor of Anatomy, Royal College of Surgeons, Dublin, to Joanna Calder, second daughter of the late Rev. James Weir, A.M., Minister of Drainie.

DEATHS.

ALEXANDER.—On the 7th inst., at Margery Hall, Forest-gate, E., Frederick John Alexander, M.R.C.S., in his 63rd year.

BENSON.—On the 6th inst., Patrick Benson, M.R.C.S., L.S.A.Lond., aged 83.

BRAMWELL.—On the 10th inst., at 23, Drumsheugh-gardens, Edinburgh, Effie, youngest daughter of Byrom and Martha Bramwell, in her 11th year.

BROSTER.—On the 10th inst., at Marland-place, Southampton, John Broster, M.D., aged 52.

FOWLER.—On the 8th inst., at Brockett Hall, Torquay, Elizabeth Clara Emily (Lilly), only daughter of Oliver H. and Caroline Fowler, of Cirencester.

LOGIE.—On the 6th inst., at Queensborough-terrace, W. (of heart disease), Cosmo Gordon Logie, Surgeon-General, late of the Royal Horse Guards (Blue).

PICKFORD.—On the 13th inst., William Henry Pickford, formerly Surgeon-Major, Grenadier Guards, and late Surgeon-Major, Scots Guards, in his 52nd year.

RAYNER.—On the 8th inst., at Tiviot Dale, Stockport, William Rayner, M.D.Lond., aged 75.

TATE.—On the 9th inst., at Camden-road, N.W., George Tate, M.R.C.S., L.S.A.Lond., aged 84.

TAYLOR.—On the 4th inst., at Crow Trees, Bradford, Yorkshire, William Taylor, M.D., aged 72.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 15th, 1886.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apr. 9	29·52	W.	43	40	91	50	39	·12	Cloudy
,, 10	29·63	W.	45	42	79	48	36	·02	Fine
,, 11	29·65	S.W.	39	38	84	53	37	·14	Raining
,, 12	30·06	N.W.	43	39	86	57	36	·04	Fine
,, 13	30·29	W.	46	43	93	57	39	...	Hazy
,, 14	30·30	N.W.	47	45	77	54	44	·02	Raining
,, 15	30·27	E.	47	44	...	...	43	...	Hazy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

EUROPEAN CAPITALS AND THEIR WATER-SUPPLY.

ROME heads the list with her 204,000,000 litres of pure water every twenty-four hours. Her population being 345,036, every inhabitant can dispose of 591 litres per diem. London comes next, for every one of whose 4,035,040 inhabitants there are 300 litres daily. Paris takes the third place, her population amounting to 2,240,124, and each inhabitant having for alimentary uses 58 litres per diem, and for secondary purposes 169—a total of 227 litres. Berlin has 1,302,283 inhabitants, for each of whom there are 140 litres daily; Vienna, 770,172 inhabitants, with 100 litres each per day; Naples, 463,172, with 200 litres; and Turin, 273,598, with 98 litres a head every twenty-four hours.

A CURIOUS COINCIDENCE.

To the Editor of THE LANCET.

SIR,—You may think the following rather remarkable coincidence worth recording. Soon after it was published I recently purchased a work on Medicine in the Borough. About a fortnight or so ago I found that an error had been made in binding it—viz., pages 817-32 left out and pages 833-48 inserted in duplicate. The publishers very promptly undertook to rectify the mistake on my notifying it to them. They returned it on April 1st. On April 8th I purchased of the same bookseller a copy of another work, and on inspecting my purchase later on I discovered that an exactly similar error had been made in binding it—viz., pp. 65-80 left out and pp. 81-96 inserted in duplicate. Considering the number of books issued daily, the small percentage of mistakes that occur in binding them, and the variety of mistakes that might be made, it certainly is strange that two books similarly imperfect should have been issued by the same publishers, pass through the same booksellers, and finally reach the same purchaser—the one exactly a week after the corrected copy of the other had been returned. Perhaps some mathematician would like to calculate the chances against such a coincidence occurring again before the end of this century!—or next!

I am, Sir, yours truly,

April 12th, 1886. C. L.

DON JUAN CUESTA Y CKERNER.

THE death of Dr. Tejada, editor of the *Genio Médico Quirurgico*, which we noticed a short time ago, has been followed by that of another representative of the Madrid medical press—viz., the venerable and much esteemed editor of the *Correspondencia Médica*, Señor Don Juan Cuesta y Ckerner. One of the last paragraphs he penned was for the issue of March 16th, on the death of his friend and rival, Dr. Tejada, in which he stated his regret that, owing to infirmity from which he had long suffered, causing dyspnœa, he was unable to be present at the funeral, adding, almost prophetically: "How often I have thought during the attacks of asphyxia which seize me that he and I would be travelling the path of eternity together."

ROYAL COLLEGE OF SURGEONS.

THE following are the questions put to the candidates at the late examination in Anatomy and Physiology:—

Anatomy.—From 2 to 5 o'clock P.M. Candidates to answer at least four questions.

1. Mention the muscles which are attached to the following parts of the skeleton—(*a*) Great wing of the sphenoid, (*b*) angle of the inferior maxilla, (*c*) coracoid process of scapula, (*d*) coronoid process of ulna, (*e*) internal cuneiform bone of the foot. Give the nerve-supply of each muscle.

2. Describe the dissection necessary to expose the common femoral artery.

3. Describe the under-surface of the liver, and state the relative position of structures in contact with that surface.

4. Give the origin, course, and distribution of the spinal accessory nerve.

5. Describe the innominate artery, and give its course and relations.

6. Describe the arrangement of the superficial veins of the upper extremity.

Physiology.—From 2 to 5 o'clock P.M. Candidates to answer at least four questions.

1. Describe the circulation of the blood through the liver. Give the structure and functions of a hepatic lobule.

2. Describe the structure of a bronchial tube. Mention the uses of each of its constituents.

3. Explain the processes by which the normal temperature of the body is maintained and regulated.

4. Give the microscopic structure of a striated muscle-fibre. How may a muscle be excited to contract? What phenomena accompany contraction?

5. Describe the development and structure of a ripe Graafian follicle. What change does it undergo after the discharge of the ovum?

6. What is the meaning of the term "blood-pressure"? By what circumstances may blood-pressure be modified?

CASE OF STRANGULATED HERNIA.

To the Editor of THE LANCET.

SIR,—The following particulars of a case of strangulated hernia may be of interest to some of your readers.

On the evening of Sept. 2nd, A. B——, fireman, came to my surgery, stating that he had fallen on a joist while cleaning the engine-room skylights, and saying "he thought he had ruptured himself." He fell at 4 P.M., and at the time did not experience any uncomfortable feelings. A short time afterwards he found a small tumour, which very quickly got larger as he continued working. I examined him, and found his scrotum an enormous size. I immediately placed him on the surgery floor and endeavoured to reduce the tumour by taxis. Having failed, I got the chief engineer to administer chloroform, under my superintendence, and again tried to reduce the swelling. For three-quarters of an hour I steadily laboured at the case, and, giving up all hope, I determined to operate. Having placed the patient on a suitable bed in one of our hospitals, I operated at 7.15, having up to then tried every effort at reduction. I was assisted by Mr. Kennedy (engineer), who gave chloroform (the chief engineer being tired) and Mr. Helberg (purser), who gave me most valuable assistance throughout. In operating, when I came to the sac I found it much congested, being caused, as I thought, by the efforts previously made at reduction. I divided the constriction, and returned the tumour with slight difficulty. Having tied the few vessels, I waited to see if any more were bleeding, but finding none, I brought the edges of the wound together, applying some carbolised oil, a pad, and spica bandage. After the operation he was quite cheerful. In an hour and a half I saw him again, when he said "the tumour was coming down." I immediately undid the bandage, and found a tumour at the site of the wound, also the scrotal bag enlarged. I cut the sutures, removed some clots of blood (for of such the tumour was composed), and, having discovered two small vessels bleeding, I tied them, and once more brought the edges of the wound together. I then applied some pounded ice in a napkin to the wound, the application of ice being carefully repeated throughout the night. At 11 o'clock I gave him half a drachm of tincture of opium. In the morning he felt very well. Pulse and temperature normal. We then arrived at Adelaide, and the Government inspecting medical officer, Dr. Toll, came on board. He kindly took the case into hospital, while we proceeded on our way to Melbourne. While in hospital the case was as follows:—The first night there was an elevation of two degrees in temperature, which went down again next morning. The bandages were undone, and the wound on examination looked healthy. It was dressed with carbolic lotion (1 in 40), and improved daily, healing by granulation. The bowels, which up to this had not been moved, were relieved on the seventh day. The patient was able to go about in twenty days after the operation. He is now on board, and is quite well. I have advised him to discontinue his work as a fireman, for I consider labour in the stoke-hole unfit for a man in his condition.

I am, Sir, yours very faithfully,

P. H. ROCHFORT,

March, 1886. Physician and Surgeon, Royal Mail *s.s. Scrata.*

A HEALTHY CITY.

SPEAKING of Goulburn, in New South Wales, a recent English visitor, Dr. J. E. Taylor, says: "It is a picturesque and clean town, with wide streets and fine buildings, surrounded by a breezy, open country on one side, and a bold, craggy ridge, half forest-clad on the other." He then proceeds to state that "Goulburn is said to be so healthy that the doctors rely on the natural increase of population for a living! People are neither in a hurry to be sick nor to die."

Mr. W. Rayner.—There is high legal authority for the statement that workhouse *infirmaries* are not included under the term "hospitals" in relation to the Coroner's Inquiry Act. But although we believe that technically a medical man could claim fees for giving evidence as to the cause of death taking place in workhouse infirmaries, long usage to the contrary has become an "unwritten law."

Mr. T. E. Young.—Any saccharine substance will answer the purpose.

CONGENITAL NÆVOID LIPOMA.

To the Editor of THE LANCET.

SIR,—I have thought that the notes of the following case might prove of interest to some of your readers.

J. B——, aged eight weeks, is anæmic, emaciated, and has snuffles. No other specific history or symptoms. In the left axilla there is a nævoid growth, somewhat larger than a walnut in size, and over the spine of the left scapula two nævus stains. The veins of the arm on the same side are dilated and tortuous, without heat, pain, thrill, or pulsation of any kind. The skin and subcutaneous tissue between the shoulder and elbow are pendent, flabby, and pervaded by an indolent and incompressible growth, apparently consisting of large meshes of connective tissue containing numerous fat-cells, and being traversed by thickened and dilated vessels, constituting a distinctly vascular element. The subcutaneous tissue is adherent to the skin. In the forearm there are two swellings, one about the size of a pea, the other rather more than twice that size, produced partly by a tortuosity of the vessels and partly by fibro-fatty growth. The terminal phalanges of the left hand are double-jointed, the middle finger deviating considerably towards the ulnar side. The ends of the fingers occasionally become cyanosed. Over the manubrium sterni on the left side is an enlarged lymphatic gland. The right shoulder and arm present no nævoid appearance or discolouration; nevertheless, the integuments on this side from the elbow to the shoulder are pendent and soft, being involved by a fibro-fatty growth, identical with that existing on the opposite side. The growth at present causes no pain or inconvenience to the child, nor does it much impede the movements of the arms. The mother says that the growth still increases.

I do not consider this a case for operative interference at present, since, as stated above, it does not now cause any distress or material inconvenience, and, moreover, since former cases prove that these growths have a strong tendency to recurrence. Again, the anatomical relations to the growth in the axillary region would in most minds preclude the idea of any operative interference. It is when these growths are situated in the anterior part of the thigh, just below Poupart's ligament, close upon and almost in relation with the femoral vessels, that they cause most inconvenience by the pressure which they exert on the femoral vein, producing œdema of the limb, and necessitating some surgical interference. The mother states that during the time she was carrying the child, and just prior to the period of quickening, she had a fright. As she was passing along the street one day a monkey suddenly sprang from a window on to her shoulder, and tore off her shawl. She considers that this incident may perhaps account for this strange anomaly.

I am, Sir, yours obediently,

Hounslow, March 3rd, 1886. C. GOWER LEMMITTE, M.R.C.S., &c.

SALICIN.

THE willow is now being largely cultivated in America for medicinal purposes. The switches at the end of two years are from four to seven feet long, and are cut and gathered into bunches like sheaves of wheat. In the stripping building they are steeped in water, and the bark at the larger end is loosened for a couple of inches by machinery. One by one the switches are placed in the mechanical stripper, and with a pair of pliers are pulled through with a sudden jerk. They are then wiped off with a woollen cloth, bundled, and laid away to dry. All the leaves and bark are dried and baled, when they command a price of twenty-five cents a pound. On one farm in Georgia there are at present 400,000 willows growing, and 80,000 additional slips have recently been put in, it being intended eventually to devote sixty acres to this crop. The average yield is a ton to the acre. When dried, the willows command 200 dollars per ton, and find a ready market.

"DOCKED FEES."

To the Editor of THE LANCET.

SIR,—The question of guinea *versus* sovereign may be considered as finally settled. In a question of fees submitted to the arbitration of the highest authorities not very long ago their award was expressed in pounds. From this it must be inferred that, as regards the medical profession, the guinea is now abandoned. None of the classes alluded to by "M.B. Dub." are the least likely to follow our example, and so we shall be still more victimised. I am, Sir, your obedient servant,

April 9th, 1886. M.D.

ACORN-COCOA AS FOOD IN CHILDREN'S DISEASES.

DR. GUSTAV V. HÖSSLIN writes in the *Münchener Medicinische Wochenschrift* that he has tried a food called "acorn-cocoa" (eichelcacao), which had been used in Prof. Senator's polyclinic and the Augusta Hospital in Berlin, and has found it as valuable as it had been reported to be. It is composed of cocoa, baked acorns, sugar, and baked flour. He employed it in the cases of thirty children, varying in age from four weeks to six years, suffering from chronic diseases of various kinds, in twenty-nine of whom it produced an immediate and permanent improvement. The youngest children were given no other nourishment, beyond some milk, with it, the elder ones only having soup in addition. The little patients liked the food, and their appetites soon began to increase. Dr. v. Hösslin has also tried the acorn-cocoa in phthisis in the case of adults, and thinks that it has been of benefit, but suggests that further observations are required on this head.

PECULIAR FORM OF WHOOPING-COUGH.

To the Editor of THE LANCET.

SIR,—I should feel obliged if any of your readers would state whether they are acquainted with the following peculiar form of whooping-cough occurring in an elderly man, a little over fifty years of age. It commenced with an irritating laryngeal cough, attended with slight expectoration. But in about three weeks from the commencement, on the termination of each paroxysm of coughing, the patient was seized with a violent attack of suffocation, caused apparently by spasmodic closure of the glottis, and lasting from thirty to sixty seconds. These attacks caused very great distress, especially during the night; but a cough-mixture containing hydrochlorate of morphia was of great benefit, and prevented the patient from being utterly exhausted by want of sleep.

Two weeks later—that is to say, five weeks from the commencement of the cough, several characteristic "whoops" occurred during the attacks of coughing, while the spasms of suffocation after each attack continued as before. It was then decided to treat the affection as whooping-cough, with full doses of the tincture of belladonna, while the morphia was entirely stopped. Almost immediately the spasms of the glottis seemed to be subdued by the belladonna, and after three days they almost entirely ceased. The patient now continues to suffer from the characteristic "whoop"; but the cough has greatly decreased in frequency and severity, and the spasms of the glottis have disappeared. If, however, the belladonna were to be entirely discontinued, there is reason to fear that the spasms would return. The patient had whooping-cough in his childhood, but only very slightly.

The peculiarity of the case consists in the occurrence of the spasms of the glottis so long before any distinct symptoms of whooping-cough had appeared. The inhalation of chloroform during each spasm gave very decided relief. I am, Sir, yours faithfully,

Naval and Military Club, Piccadilly, W., April 14th, 1886. M.D.

FOOD FOR THE POOR: A SUGGESTION.

To the Editor of THE LANCET.

SIR,—Since the end of the Russo-Turkish war I have not had the need to write to you, but lately I have felt I might offer you a few observations. In the first place, with regard to food for the poor and unemployed in London. I have seen no mention of a trial having been made of Indian corn meal—the "polenta" of Italy, the "mamaliga" of Roumania,—and yet, I assure you, it is excellent. In Roumania we have no starving population, but the peasants content themselves with mamaliga, which is prepared by Indian meal being stirred into boiling water until it becomes a very thick batter; it is then poured out on to a wooden platter, when it becomes solid. It is eaten hot, alone or with an onion, or a dried fish, or "tourt" (thick sour milk), or with a slice of goat's milk cheese. It is rarely that our peasants taste bread, and yet they are as a rule strong and healthy. Mamaliga is served very often at the table of the rich, but then the meal is sifted before boiling, and it has the addition of fresh butter. As an experienced housekeeper, I think in English kitchens, where they complain of insufficient cooking accommodation, it would be a welcome innovation were they to serve occasionally a lump of hot mamaliga and a morsel of cheese rather than the eternal soup. I am, Sir, yours faithfully,

Calmata, Bucharest, Roumania, April 2nd, 1886. EMMA B. MAWR.

THE TREATMENT OF GONORRHŒA CHRONICA BY INJECTIONS.

To the Editor of THE LANCET.

SIR,—There can be no question, as Dr. Casper says, ordinary injections in gonorrhœa chronica do not reach the real seat of the mischief; but if they are applied by means of Erichsen's liquid caustic catheter, quite as rapid an effect is produced as with Dr. Casper's grooved bougies. Three or four drops only are injected by this means; but this quantity is quite sufficient for the purpose, and the operation rarely requires repeating more than three or four times at the most, and then only at intervals of from five to seven days. The inflamed spot is easily detected by the pain the catheter produces on reaching it.—Your obedient servant,

Surbiton, Feb. 19th, 1886. F. P. ATKINSON.

ERRATUM.—In the seventh line from the bottom of our notice last week of Dr. Spencer's binaural stethoscope, for "consultation" read *auscultation*.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Saundby, Birmingham; Mr. Frederick Treves, London; Sir Lyon Playfair, London; Mr. Simeon Snell, Sheffield; Dr. Moxon, London; Mr. W. Fraser, Aberdeen; Messrs. Savory and Moore; Mr. S. Paget, London; Mr. Jackson, Holloway; Dr. Stokoe, Wycombe; Messrs. Grinley and Co., Calcutta; Dr. Simmons, Nebraska, U.S.A.; Messrs. Doulton and Co., Lambeth; Dr. Laprade, Lyons; Dr. McNaughton; Mr. Stevens, Rochdale; Dr. Casper, Berlin; Mrs. Walsh, London; Mr. Paterson, Leeds; Mr. Montgomery, Partick; Mr. Condy, London; Rev. W. Bell, Dover; Capt. Hamilton, Brighton; Messrs. Oppenheimer and Co., London; Mr. Shanks, London; Mr. Braddon; Mr. Besser, Dalston; Mr. Bland, Colchester; Mr. Murlin, Sutton; Mr. Hastings, London; Dr. Fraser, Tain; Mr. Harp, Notts; Mr. Armstrong, South Shields; Mr. L. F. Cogan, Northampton; Mr. Stott, London; Mr. J. Oliver, London; Mr. A. W. Powell, Mt. Gambier; Dr. Ward, Sutton Coldfield; Dr. Suckling, Birmingham; Dr. Kirk, Partick; Mr. E. W. Russell, London; Mr. H. V. Drew, Canterbury, N.Z.; Mr. Warrington Haward, London; Mr. Rideal; Dr. Boothroyd, London; Dr. Francis Hawkins, London; Mr. G. R. Turner, London; Mr. McDonald, Manchester; Mr. Lefèvre, London; Mr. J. B. Cooney, London; Dr. Ward Cousins, Southsea; Dr. Campbell, Garlands; Messrs. Williams and Co., London; Mr. Salmond, Alfreton; Mr. Kuhn; Dr. J. S. Walker, Hanley; Mr. Todd, Moy; Mr. Brewster; Messrs. Allsopp and Co., London; Mr. Senier, Norwood; Messrs. Leader and Sons, Sheffield; Mr. Dilworth, Prescot; Mr. Lucas, Ipswich; Dr. Skerritt, Bristol; Dr. Morris, London; Dr. E. Clarke, London; Mr. Freeman, London; Dr. Gray, Dalton-in-Furness; Mr. Thorburn; Messrs. Smith and Son, Manchester; Mrs. Hitch, Hollington; Messrs. Johnson and Co., Croydon; Dr. McLean Swindon; Messrs. Jevons and Co., Liverpool; Mr. Brewster, Bootle; Mr. Essex, Pontypool; Messrs. Marshall, Glasgow; Mr. Heygate, Bath; Dr. Hardwicke, Harwich; Dr. W. H. Stone, London; Dr. J. Williams, Brynmeurig; Dr. Debour d'Estrée, London; Dr. Murray, Forfar; Dr. Beresford Ryley, London; Mr. Rowbotham; B.; Surgeon, Redruth; B. B.; Surgery, Ipswich; M.D.; C. L.; Nous verrons.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Eberle, Thirsk; Dr. Hargreaves, London; Mrs. Morgan; Messrs. Trehearne and Co., London; Dr. Mackay, Eske; Dr. Stables; Messrs. Carless and Co., Devizes; Dr. Serjeant, Brixton; Messrs. Lewins and Co., Manchester; Mr. Fryer, Gloucester; Dr. Chill, Highgate; Dr. H. Fox, London; Mr. Maymont, Aberdeen; Messrs. Benson and Co., London; Dr. Johnston, Sheffield; Mr. Bailly; Messrs. Marshall and Co., Stoke Newington; Mr. Hamilton, Lesmaghow; Dr. Bramwell, Edinburgh; Mr. Maw, Bradford; Mr. Webb, Bury; Mr. Hewer, Wigan; Mr. Mercier; Mr. Holtby, York; Mr. Purkes, Burton-on-Trent; Dr. Daunt, Shirley; Dr. Thomson, Luton; Messrs. Edis and Co., Huntingdon; Mr. Beresford, Gosport; Mr. Stilliard; Dr. Wilson, Dover; Mr. O'Grady, Hyde; Mr. Cooper, Plymouth; Senior; Secretary, Devon Infirmary; M.P., Southport; Dornan, Waltham Abbey; Secretary; Beta; H. P. N.; Bon, Edinburgh; Measom; Agnus; W. S.; M.R.C.S., Alfreton; Medicus, Barnsley; Medicus, London.; Smith, Bath; J. W., Anglesea; House-Surgeon; M.R.C.S., London; M. M.; Swallow; M.D., Old Kent-road; Confidential, New Brighton; Delta; G. H. B.; Practitioner; X.; M. A. L.; Unqualified, Brigg House.

Canadian Royal Templar, Freeman, Marlburian, Western Mail, Alnwick Guardian, Marlborough Times, South Wales Daily News, &c., have been received.

Medical Diary for the ensuing Week.

Monday, April 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesdays, same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. John Morgan: Notes of a case of Littré's Hernia.—Dr. Day: Two cases of Simple Meningitis in Children, their Difficulties in Diagnosis.

Tuesday, April 20.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Lockwood: (1) Congenital Fatty Tumour from Sole of Foot; (2) (for Mr. W. Adams) Fatty Tumours from Palm of Hand; (3) Abnormality of Colon.—Dr. Sharkey: Meningeal Hæmorrhage.—Mr. B. H. Fenwick: Stone impacted in Prostatic Urethra.—Mr. Arbuthnot Lane: The Pathology of Rheumatoid Arthritis.—Mr. R. Williams: Colloid Cancer of a Uterine Fibro-myoma.—Dr. Charlewood Turner: Specimens of Pulmonary Thrombosis.—Mr. R. W. Parker: Obliterative Tracheitis and Bronchitis in Congenital Syphilis.—Dr. Dalton: Tumour of the Ventricle from a case of Diabetes.—Mr. Mansell-Moullin: Primary Sarcoma of Spermatic Cord (card).—Dr. Silcock: Glandular Epithelioma from the Lung of a Dog (card).

Wednesday, April 21.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesdays and Thursdays, 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Skin Department, Tuesdays and Fridays, 9.30 A.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; and on Friday, 2 P.M.; and Saturday, 1 P.M.

Thursday, April 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, April 23.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, April 24.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom and all other Advertising Agents.

Agent for the Advertising Department in France—J. ASTIER, 66, Rue Caumartin, Paris.